Which of the following agents has been shown to reduce mortality in patients with congestive heart failure?

A. Digitalis

B. Enalapril

**C. Furosemide

D. Procainamide

Which of the following is a recognized side effect of furosemide in congestive heart failure?

A. Hypokalaemia

B. Bronchospasm

C. Hypoglycaemia

**D. Haemolytic anaemia

A 40-year-old woman presents to the Emergency Department with vomiting and generalized abdominal pain. She does not know her medications. She states that her vision has been slightly yellow tinged recently (see image).

Blood pressure 90/50 mmHg
Heart rate 60 /min
Respiratory rate 16 /min
Temperature 37° C

Which of the following is the most likely diagnosis?

A. Anterolateral MI

**B. Digoxin toxicity

C. Hypokalaemia

D. Hypothermia

A 60-year-old patient with a previous ischaemic stroke presents with a regular narrow complex tachycardia. The patient is hemodynamically stable. The decision is made to administer IV adenosine.

In the presence of which of the following should the dose of adenosine be reduced?

A. Theophylline

**B. Dipyridamole

C. Chronic renal impairment

D. Significant mitral regurgitation

Which of the following drugs used in the treatment of chronic heart failure has been shown to increase survival?

A. Digoxin

**B. Enalapril

C. Furosemide

D. Hydralazine

A 39-year-old man presents to the clinic with unexplained fever 19 days after an attack of acute rheumatic fever. Several of his teeth have been extracted prior to the hospital admission. Clinical examination confirms a systolic murmur and splenomegaly (see lab results).

Test Result Normal Values
WBC 14.0 4.5-10.5 x 109/L
Neutrophils 72 40-60%

Urinalysis:
Test Result Normal Value
Erythrocytes 25 0-2 per HPF

Which of the following is the most likely diagnosis?

A. Floppy mitral valve

**B. Bacterial endocarditis

C. Acute myocardial infarction

D. Recurrent rheumatic heart disease

A 62-year-old man presents with recurrent retrosternal chest pain, which he said has become much worse over the last 3 weeks. He describes the pain as lasting much longer than before and that it occurs even while he is sitting in a chair or in bed at night reading.

Which of the following is the most likely type of angina?

**A. Unstable

B. Heberden

C. Exertional

D. Prinzmetal

A 52-year-old man comes to the clinic for a checkup. He has hypertension for 5 years is currently being treated with hydrochlorothiazide 25 mg/day (see lab results).

Blood pressure 155/101 mmHg
Heart rate 84 /min

Test Result Normal Values
Sodium 141 134-146 mmol/L
Potassium 4.1 3.5-5.1 mmol/L

Creatinine 105 44-115 µmol/L
Glucose, fasting 7.3 3.5-6.5 mmol/L

Which of the following is the most appropriate management modification?

A. Add a beta blocker

B. Add a Calcium channel blocker

C. Double the hydrochlorothiazide dose

**D. Add an angiotensin converting enzyme inhibitor

A 30-year-old intravenous drug user presents with fever, night sweats, chest pain, and arthralgia. On examination, painless erythematous lesions noted on the palms of the hands; with round erythematous lesions and central clearing noted in the retina and splinter haemorrhage under the fingernails.

Which of the following is the most likely diagnosis?

A. Syphilis

B. HIV infection

C. Infectious hepatitis

**D. Bacterial endocarditis

A 77-year-old woman with poorly controlled long-standing type 2 diabetes and hypertension is complaining of dizziness when standing up rapidly. Current medications include aspirin, atenolol, insulin, metformin and multivitamins.

Sitting:
Blood pressure 140/85 mmHg

Standing:
Blood pressure 115/80 mmHg
Heart rate 95 /min (unchanged on standing)
Respiratory rate 18 /min
Temperature 36.6° C

Which of the following is the most likely explanation?

A. Hypoglycaemia

B. Medication side effect

**C. Autonomic neuropathy

D. Left ventricular dysfunction

A 67-year-old man is brought to the Emergency Department by his family with confusion and a decreased level of consciousness. The family reported his being feverish and feeling unwell for 2 days that was also associated with diarrhoea and poor oral intake. The patient has bronchial asthma, hypertension and an old myocardial infarction. He has not been able to take his regular medications for 2 days due to the acute illness. On examination, the JVP is not visible, heart sounds are normal, no cardiac murmurs and lungs are clear with no rhonchi or crepitation. The patient's extremities are cold and peripheral pulses feeble (see report).

Blood pressure 83/45 mmHg
Heart rate 120 /min (regular)
Respiratory rate 20 /min
Oxygen saturation 95% (room air)

ECG:
Sinus tachycardia and evidence of an old inferior myocardial infarction.

Which of the following is the most appropriate next step in management?

**A. IV boluses of normal saline

B. Intravenous beta blockers

C. Nasogastric tube feeding

D. Dopamine infusion

A 40-year-old man is brought to the Emergency Department with progressive difficulty in breathing. History reveals, he is being treated for bronchogenic carcinoma. On examination, the JVP is elevated; lungs clear and heart sounds are very quiet.

Blood pressure 88/50 mmHg
Heart rate 125 /min (regular)
Respiratory rate 24 /min
Temperature 36.8 C°

Which of the following is the most appropriate test to confirm the diagnosis?

A. Chest X-ray

**B. Echocardiogram

C. Electrocardiogram

D. Arterial blood gases

A 52-year-old man was diagnosed in the Emergency Department with an acute inferior wall myocardial infarction. An intravenous morphine bolus and IV nitroglycerine infusion were administered for severe on-going chest discomfort. 20 minutes later, and while preparing the patient for a primary percutaneous coronary intervention, his condition became worse. His JVP at this time was elevated and his lungs were clear.

Initial Emergency Department Record: Blood pressure 120/70 mmHg
Heart rate 90 /min (regular)
Respiratory rate 22 /min
Oxygen saturation 96% (room air)

30 Minutes Later:
Blood pressure 75/40 mmHg
Heart rate 105 /min (regular)

Which of the following is the most likely cause of the hypotension?

A. Cardiac tamponade

B. Complete heart block

C. Papillary muscle rupture

**D. Right ventricular infarction

A 60-year-old man presents to the Emergency Department with epigastric pain radiating to the back. He is a smoker and has long-standing diabetes and hypertension. Abdominal examination reveals a pulsatile supra-umbilical mass.

Which of the following is the most likely diagnosis?

**A. Abdominal aortic aneurysm

B. Secondary liver metastasis

C. Renal cell carcinoma

D. Peri-umbilical hernia

A 55-year-old man who is a heavy smoker is being evaluated for increasing bilateral lower limb swellings. Chest examination confirms resonant lungs with reduced breath sounds and occasional rhonchi. The apex beat could not be easily located. No cardiac murmur is heard, but P2 is markedly loud. The JVP is elevated and bilateral pitting edema was confirmed.

Which of the following is the most likely cause of the lower limb swelling?

A. Liver cirrhosis

B. Bilateral DVT

**C. Cor pulmonale

D. Nephrotic syndrome

A 55-year-old patient presents to the clinic with leg pain brought on by walking and relieved by rest. The patient reports a history of many years of smoking. Physical examination confirms loss of hair over the lower shins as well as dystrophic nails.

An ankle-brachial index 0.80

Which of the following is the most likely diagnosis?

A. Lumbar disc prolapse

B. Deep vein thrombosis

**C. Chronic limb ischemia

D. Chronic venous insufficiency

A 15-year-old boy presents to the clinic for an annual physical assessment. The patient has normal growth and development and is able to do usual activities. His elder brother died due to a sudden cardiac death while walking to work. On physical examination, there is no cardiac murmur. Pulses are equal in all extremities.

Which condition must be excluded before any sport is allowed?

A. Bicuspid aortic valve

B. Patent ductus arteriosus

C. Ventricular septal defect

**D. Hypertrophic cardiomyopathy

A 55-year-old diabetic and hypertensive patient presents with a history of bilateral intermittent leg pain brought on by walking for 300 meters and relieved by rest.

What is the most likely diagnosis?

A. Varicose vein

B. Diabetic foot infection

C. Peripheral neuropathy

**D. Peripheral arterial disease

A 58-year-old hypertensive patient presented with a 10-day history of a left-sided hemiparesis. The CT scan of the brain confirmed an area of infarction. There was no significant finding on a clinical examination apart from his hemiparesis. The patient had already started physiotherapy, and is taking 20 mg lisinopril and hydrochlorothiazide once daily.

Blood pressure 140/90 mmHg
Heart rate 76 /min
Respiratory rate 18 /min
Temperature 36.6° C
Oxygen saturation 95% on room air

Which of the following is the best management?

A. Apixaban

B. Warfarin

**C. Aspirin

D. T-PA1

1Tissue Plasminogen Activator

A 35-year-old woman presents with bilateral leg deep vein thrombosis. She has a history of recurrent still births (see lab result).

Test Result Normal Value

APTT 55 30-40 sec

Which of the following is the most likely diagnosis?

**A. Antiphospholipid syndrome

B. Antithrombin deficiency

C. Protein S deficiency

D. Protein C deficiency

An 81-year-old diabetic presents to the clinic with a recent onset of redness of the skin on the left lower extremity. The redness worsens when the leg is in a dependent position. On examination, pedal pulses in the left leg are diminished. The leg is cold and there is no tenderness on palpitation.

Which of the following is the most likely diagnosis?

A. Cellulitis

B. Necrotizing fasciitis

**C. Arterial insufficiency

D. Superficial thrombophlebitis

A 70-year-old man is brought to the clinic with an acute confessional state. On examination, he has postural hypotension and dry mucus membranes.

Test Result Normal Value
Calcium 3.41 2.15-2.62 mmol/L

Which of the following is the most appropriate initial treatment?

**A. I.V. 0.9% sodium chloride

B. I.V. sodium pamidronate

C. Oral prednisolone

D. I.V. furosemide

A 72-year-old patient with a 20-year history of non-insulin dependent diabetes mellitus, but with no history of angina pectoris or other significant vascular disease. The patient has never been diagnosed as hypertensive, and the blood pressure has been repeated on 2 additional occasions, with the readings remaining the same.

Blood pressure 170/105 mmHg
Heart rate 76 /min
Respiratory rate 18 /min
Temperature 36.6° C
Oxygen saturation 95% on room air

Which of the following treatments should be prescribed?

A. Calcium-channel blocker

B. Thiazide diuretic

**C. ACE inhibitor

D. β-blocker

A 45-year-old patient is recently diagnosed with hypertension and begins taking lisinopril but then develops a persistent cough.

Which of the following drugs should be prescribed instead of lisinopril?

A. Atenolol

B. Enalopril

**C. Losartan

D. Nifedipine

A 60-year-old man presents with diminished pulses, angina and syncope with exercise. On physical examination, he has an ejection murmur radiating into the carotid arteries.

Which of the following is the most likely diagnosis?

**A. Aortic stenosis

B. Pulmonary stenosis

C. Mitral regurgitation

D. Tricuspid regurgitation

A 36-year-old man has recently been found to have high blood pressure. Both his parents and 2 sisters also have high blood pressure. Physical examination is normal (see lab results).

Blood pressure 160/100 mmHg
Heart rate 84 /min
Height 173 cm
Weight 78 kg

Test Result Normal Values
Creatinine 138 44-115 µmol/L
Glucose, fasting 5.1 3.5-6.5 mmol/L
Urine analysis Proteins 2+ Negative

Which of the following is the most appropriate therapy?

A. Diuretic

B. Beta blocker

**C. ACE inhibitor

D. Alpha blocker

A 61-year-old woman has had type 2 diabetes for 12 years. She takes insulin and does not smoke. She was recently started on enalapril 10 mg daily for hypertension but could not tolerate it because of a cough (see lab results).

Blood pressure 160/95 mmHg
Heart rate 84 /min

Test Result Normal Value
Creatinine 142 44-115 μmol/L

24 Urine Analysis:
Test Result Normal Values
Creatinine clearance 66 100-140 mL/min
24-hour urine protein 1500 0-150 mg/24 hr

Which of the following is the most appropriate therapy?

A. Beta blocker

B. Thiazide diuretic

C. Calcium channel blocker

**D. Angiotensin receptor blocker

A 70-year-old patient has a sudden onset of pain in the left lower limb. The pain is severe and associated with numbness. The patient had an acute myocardial infarction 2 weeks before and was discharged 24 hours before this presentation. The left leg is cold and pale, the right leg is normal.

Which of the following is the most likely diagnosis?

A. Acute arterial thrombosis

**B. Acute arterial embolus

C. Deep vein thrombosis

D. Dissecting aneurysm

A patient with atrial fibrillation is on warfarin 5 mg daily, the latest INR is 7.0 on routine evaluation. There is no evidence of abnormal bleeding.

Which of the following is the most appropriate action?

A. Increase warfarin to 7.5 mg daily

B. Decreased warfarin to 2.5 mg daily

C. Continue with same dose of warfarin

**D. Hold warfarin and repeat INR next day

A 73-year-old man comes to the Primary Health Care Clinic with severe shortness of breath at night and swelling of the ankles. He has reduced his activity over the past year because of chest pain when he exerts himself. Physical examination confirms crackles over both lungs, enlargement of the liver, and pitting edema of the ankles. ECG, cardiac enzymes and blood electrolytes are normal.

Blood pressure 140/90 mmHg
Heart rate 95 /min
Respiratory rate 24 /min
Temperature 36.6° C

Which of the following is the most appropriate to be included in immediate management?

A. Digoxin

B. Atenolol

**C. Furosemide

D. Hydrochlothiazide

A 70-year-old man, with no past medical history, presents to the Emergency Department 4 hours after the onset of a severe crushing substernal chest pain radiating to the neck and left arm (see report).

Electrocardiography:
Significant ST-segment elevation in leads I, AVL, V5, and V6.

Where is the most likely site of cardiac infarction?

A. Anterior

B. Inferior

**C. Lateral

D. Posterior

A 60-year-old patient presents to the hospital, complaining of a sudden onset of chest pain radiating to the back. The blood pressure is low in the left arm and the left femoral pulse is not palpable (see reports).

Chest X-ray:
A left pleural effusion.

ECG:
Left ventricular hypertrophy.

Which of the following is most likely to confirm the diagnosis?

A. Echocardiography

B. Cardiac isoenzymes

**C. Aortic CT angiography

D. Complete blood count

A 46-year-old man recovering from an acute myocardial infarction 10 days ago. He develops a sharp pain behind the sternum which is made worse by coughing. The patient gets relief when sitting forward. On examination, a scratchy superficial sound is heard at the left sternal edge, and heart sounds are muffled. There is ascites and a 2 cm raised JVP is confirmed.

Which of the following ECG changes would most likely be found?

A. Atrial fibrillation

B. Sinus tachycardia

**C. Diffuse ST elevation

D. Prolonged PR interval

A 60-year-old man is admitted to the Coronary Care Unit with an acute myocardial infarction. His hemodynamic parameters 2 hours later are:

Blood pressure 80/50 mmHg
Heart rate 40 /min
Respiratory rate 18 /min
Temperature 36.6° C
Oxygen saturation 95% on room air

Which of the following would be the appropriate management?

**A. IV 0.6 mg atropine sulphate

B. Normal saline infusion

C. IV isoproterenol

D. IV dobutamine

A 65-year-old patient presents with 2 hours of chest pain that feels like indigestion. In the past medical history, hypertension has been diagnosed, but no evidence of myocardial infarction or angina. This Emergency Department does not have facilities for a percutaneous transluminal angioplasty (see report).

Blood pressure 170/94 mmHg
Heart rate 104 /min
Respiratory rate 18 /min
Temperature 36.6° C
Oxygen saturation 95% on room air

ECG:
ST segment elevation in the anterolateral leads.

Which of the following is the most appropriate initial intervention?

**A. ASA, streptokinase, nitroglycerine, beta-blockers

B. ASA, streptokinase, heparin, beta-blockers

C. Nitroglycerin, ASA, heparin, beta-blockers

D. ASA, nitroglycerine, beta-blockers

A 60-year-old man presents to the Emergency Department with heavy retrosternal chest discomfort. The discomfort started 3 days earlier as intermittent brief episodes which became more frequent and prolonged over the last 24 hours. In the Emergency Department he experienced a similar type of discomfort (5/10 on the pain scale of 1-10) which responded well to sublingual nitroglycerin. serial cardiac enzymes are normal (see report).

ECG:
An initial ECG showed ST segment depression of 0.2 mV in the antero-lateral chest leads, which later normalized completely.

Which of the following is the most likely diagnosis?

**A. Unstable angina

B. Acute pericarditis

C. Myocardial infarction

D. Acute aortic dissection

A 65-year-old woman is brought to the Emergency Department of a tertiary care hospital with rapid onset shortness of breath and left shoulder and arm ache (see image).

Blood pressure 100/50 mmHg
Heart rate 90 /min
Respiratory rate 25 /min
Temperature 36.9 °C

Which of the following is the most appropriate treatment after the initial Emergency Department management?

A. Low molecular weight Heparin

B. Reperfusion with streptokinase

C. Thrombolytic therapy with t-PA

**D. Primary coronary artery stenting

A 75-year-old man who has been followed up routinely for hypertension and type 2 diabetes mellitus was found to have an irregular pulse which was not found 6 months earlier. In addition to hypertension and diabetes, his past history confirms a previous transient ischemic attack. He is currently asymptomatic and is compliant with his medications (see report).

ECG:
Atrial fibrillation at rate of 70 beats per minute.

Which of the following is the most appropriate management plan?

A. Add digoxin to his current treatment regimen

B. Pharmacological cardio-version to sinus rhythm

**C. Start anticoagulation therapy to prevent stroke

D. No further step is needed as he is asymptomatic

✓ A 29-year-old woman presents to the Emergency Department complaining of being unable to sleep flat for the last 2 nights due to difficulty in breathing. She has just delivered 1 week earlier. Physical examination confirms a laterally displaced apex beat and the presence of a third heart sound. The jugular veins were distended and bilateral lung crackles could be easily heard.

Which of the following is the most likely diagnosis?

**A. Peripartum cardiomyopathy

B. Pulmonary embolism

C. Mycordial infarction

D. Pneumonia

A 55-year-old man had a myocardial infarction 6 days before. He suddenly develops dyspnoea, cough and frothy sputum. For the first time a harsh systolic murmur is heard over the precordium.

Which of the following is the most likely cause of this development?

A. Ruptured aortic cusp

B. Pulmonary embolism

C. Tricuspid regurgitation

**D. Ruptured papillary muscle

A 40-year-old man presents to the Emergency Department after fainting while exercising. He reports past episodes of chest pain, which have occurred both at rest and with exercise. On examination of the chest there is II/IV systolic ejection murmur heard at the left sternal border, which does not radiate. The intensity of the murmur increases when the patient bears down or stands up. The lung fields are clear (see report).

Blood pressure 125/75 mmHg
Heart rate 110 /min
Respiratory rate 18 /min
Temperature 36.6° C

ECG:
Non-specific ST and T wave changes with left atrial enlargement.

Which of the following is the most likely diagnosis?

A. Aortic stenosis

B. Pulmonic stenosis

C. Restrictive cardiomyopathy

**D. Hypertrophic cardiomyopathy

A 55-year-old man presents to the Emergency Department with continuous retrosternal chest pain.

An ECG was obtained (see image).

Which of the following is the most likely diagnosis?

A. Anterior wall ST-elevation myocardial infarction

**B. Inferior wall ST-elevation myocardial infarction

C. Acute coronary syndrome with unstable angina

D. Acute Non-ST-elevation myocardial infarction

A 35-year-old women comes to the clinic complaining of infertility for 3 years. She notices excessive breast milk production for 4 months. The physical examination is unremarkable (see lab results and report).

Blood pressure 130/80 mmHg
Heart rate 80 /min
Respiratory rate 18 /min
Temperature 37.2° C

Test Result Normal Values
Thyroxine (T4 free) 12.4 8.5 - 15.2 pmol/L
Thyroid-Stimulating Hormone 1.2 0.4 - 5.0 μU/L
Prolactin 1452 < 870 pmol/L

Brain MRI:
Well defined pituitary mass about 0.7 cm, which represent an adenoma.

Which of the following is the most appropriate treatment?

A. Surgery

**B. Cabergoline

C. Observation

D. Radiotherapy

A 55-year-old woman presents with sudden left eye visual loss for 20 minutes. The vision returned to normal after this episode. History reveals, she has diabetes mellitus. The physical examination is normal.

Blood pressure 125/75 mmHg
Heart rate 75 /min
Respiratory rate 16 /min
Temperature 37.2° C

Which of the following is the most likely diagnosis?

A. Multiple sclerosis

B. Retinal detachment

C. Conversion disorder

**D. Transient ischemia attack

A 60-year-old woman with congestive heart failure complains of shortness of breath for 3 months. It is precipitated by daily activity at home. The shortness of breath awakened her several times at night. Her medication included fosinopril, carvedilol and furosemide. On examination, there is bilateral basilar crepitation (see report).

Echocardiogram:
There is dilated left ventricular chamber. The left ventricular ejection faction is 30%.

Blood pressure 125/80 mmHg
Heart rate 60 /min
Respiratory rate 16 /min
Temperature 37.1° C

Which of the following drugs is indicated?

A. Aspirin

B. Amlodipine

**C. Spironolactone

D. Isosorbide dinitrate

A 40-year-old man presents to the clinic complaining of numbness of the feet for 1 month. He was diagnosed with pulmonary tuberculosis 4 months ago. He has been taking isoniazid and rifampin and has 2 months of treatment remaining. He has well controlled diabetes mellitus for the last 3 years. The physical examination is normal.

Blood pressure 110/70 mmHg
Heart rate 80 /min
Respiratory rate 18 /min
Temperature 37.7° C

Which of the following drugs should be given?

A. Thiamine

**B. Pyridoxine

C. Vitamin B12

D. Amitriptyline

A 30-year-old woman with controlled hypothyroidism comes for follow up. She had been using thyroxin 175 mcg but the dose was increased 3 months ago to 200 mcg. Physical examination is normal (see lab results).

Blood pressure 130/80 mmHg
Heart rate 80 /min
Respiratory rate 18 /min
Temperature 37.2° C

Test Result Normal Values
Thyroxine (T4 free) 12.4 8.5-15.2 pmol/L
Thyroid-Stimulating Hormone 17.2 0.4-5.0 µU/L

What is the most likely explanation for these lab findings?

A. Small dose

B. Ectopic thyroid

**C. Poor medication adherence

D. Secondary hypothyroidism

A 45-year-old man was being investigated for hypertension. He was prescribed a drug for his lipid disorder but returned 1 week later with intense face flushing after taking the tablet prescribed. He was then advised to take a full dose of aspirin 3 times daily instead of a low dose once daily. This gave complete relief (see lab results).

Tests at first visit
Test Result Normal Values
Cholesterol (HDL) 0.72 <1.03 mmol/L
Cholesterol (LDL) 5.30 <3.36 mmol/L
Total Cholesterol 6.12 <5.1 mmol/L
Triglycerides 2.20 <2.16 mmol/L
Alanine aminotransferase 35 5-40 IU/L
Creatinine kinase 205 24-195 IU/L

Which of the following drugs was he prescribed?

**A. Niacin

B. Clofibrate

C. Atorvastatin

D. Cholestyramine

A 45-year-old patient presents to the clinic with a 3-month history of stumbling, weak grip, dysphagia, and generalised weakness, and also had 2 episodes of aspiration pneumonia in the last 2 months. Examination confirms brisk reflexes, spastic muscles, and fasciculation of tongue and thigh.

Which of the following is the most likely diagnosis?

A. Mononeuropathy

B. Myasthenia gravis

C. Myasthenic syndrome

**D. Motor neuron disease

A man on treatment for multiple sclerosis, presents with acute onset diplopia, ataxia and weakness of the right hand (see report).

MRI brain scan:
New active lesions compared to previous scans.

Which of the following is the best treatment for this development?

A. Interferon

**B. I.V. corticosteroids

C. I.V. immunoglobulin

D. Oral corticosteroids

A 71-year-old man comes to the Outpatient Clinic with difficulty walking and a hand tremor at rest for the last 3 months. There is no history of trauma or past illness. General examination reveals an expressionless face, slow and slurred speech, and a hand tremor at rest. There is no sensory abnormality but the motor system showed brisk reflexes and hypertonia. The gait is quick, with short steps and diminished associated movements, such as no arm swinging

Which of the following is the most probable location of the defect?

A. Cerebellum

B. Frontal lobe

C. Lateral ventricle

**D. Substantia nigra

A 70-year-old patient presents with a 6-month history of decline in cognitive capacity and conscious level. On examination, the patient has bradykinesia, resting tremors, a mask-like face, and a shuffling gait.

Which of the following is the most likely diagnosis?

**A. Parkinson disease

B. Tardive dyskinesia

C. Alzheimer disease

D. Huntington's disease

A 32-year-old patient is having repetitive generalized seizures that continue for 35 minutes. The patient received 20 mg of diazepam intravenously, but there has been no response.

Which of the following is the best next step in management?

**A. Phenytoin IV

B. Phenobarbital IV

C. Ethosuximide orally

D. Carbamazepine orally

A 44-year-old woman comes to her physician as she is unable to close her left eye. There is a facial asymmetry, when she smiles and inability to wrinkle the left side of her left forehead.

Which of the following nerves is mostly affected?

A. Ophthalmic

B. Maxillary

**C. Facial

D. Optic

A 35-year-woman comes to the clinic complaining of severe "pins and needles" sensations on the dorsum of her left hand over parts of the thumb, index and middle fingers. History reveals, she works as a typist. On physical examination, the patient has weakness of wrist dorsiflexion and fingers extension.

Which of the following nerves is most likely to be injured?

A. Axillary

B. Median

**C. Radial

D. Ulnar

A 42-year-old woman presents with tiredness and lethargy. She has tingling in her hands and feet. Investigations confirm a megaloblastic anaemia. She had a total gastrectomy 3 years ago.

Which of the following vitamin deficiencies is most likely to cause these symptoms?

A. B1

B. B2

C. B6

**D. B12

✓ A 45-year-old man presents to the clinic with bilateral ptosis and weakness of the proximal upper and lower limb muscles. Physical examination Is normal except for a positive Simpson test. Edrophonium test Is performed that shows transient improvement in the ptosis (see report).

Chest X-ray
Normal.

Which of the following would be the most suitable treatment?

A. Rivastigmine

**B. Pyridostigmine

C. Physostigmine

D. Echothiophate

A 20-year-old woman comes to the Medical Outpatient Department with a large swelling in the front of her neck that she had had for the last 3 years. She also complains of excessive sweating, occasional palpitations, and for the last month, the inability to stay in the kitchen for a long period. She has lost weight despite having a good appetite and intake. The examination of the swelling in her neck showed a soft, nodular mass measuring 8 x 15 cm with an audible bruit. Regional lymph nodes are not palpable (see lab results).

Blood pressure 130/85 mmHg
Heart rate 110 /min
Respiratory rate 20 /min
Temperature 37.0° C

Test Result Normal Values
Thyroxine (T4 free) 20.2 8.5 - 15.2 pmol/L
Thyroid-Stimulating Hormone 0.1 0.4 - 5.0 µU/L
Hb 140 120-160 g/L

Which of the following is the most appropriate management for palpitations?

A. Ipodate

**B. Propranolol

C. Methimazole

D. Propylthiouracil

A 75-year-old type 2 diabetic undergoes a bowel resection for colon cancer. He is well prior to the operation with well-controlled diabetes and no other underlying condition. The operation is successful and the patient is given postoperative insulin and IV dextrose. 2 days after the operation he becomes very agitated (see lab results).

Test Result Normal Values
Sodium 124 134-146 mmol/L
Potassium 3.2 3.5-5.1 mmol/L
creatinine 80 44-115 µmol/L
Blood urea nitrogen 4.6 2.8-8.9 mmol/L
Serum osmolality 270 280-300 mmol/kg

24 Urine Analysis
Test Result Normal Value
Osmolality 310 280-910 mOsm/Kg H2O

Which of the following is the most likely cause?

A. Water overload

B. Addison's disease

C. Diabetic nephropathy

**D. Inappropriate ant-diuretic hormone

A 60-year-old diabetic patient presents for follow-up. Currently, the patient takes metformin that maintains fasting blood glucose levels lower than 5.5 mmol/L with HbA1c level of 5.8%. Physical examination is normal, including a lower extremity neurologic examination. The patient has regular eye exams that show no signs of retinopathy.

Blood pressure 149/90 mmHg (three readings)
Heart rate 76 /min
Respiratory rate 18 /min
Temperature 36.6° C

Which of the following is the most appropriate management?

A. No change in therapy

**B. Add ACE inhibitor

C. Add beta-blocker

D. Add sulfonylurea

A 25-year-old patient is diagnosed with diabetic ketoacidosis (see lab results).

Blood pressure 80/50 mmHg
Heart rate 140 /min
Respiratory rate 26 /min
Temperature 36.6° C

Test	Result	Normal Values
Random Glucose	52.7	3.9 - 5.5 mmol/L
Potassium	6	3.5-5.1 mmol/L
Bicarbonate	5	21-28 mmol/L

Which of the following is the best initial management?

A. Dopamine drip to raise blood pressure above 90 mm/Hg

B. 2L of normal saline with Kcl 20 mEq/L intravenously

C. 20-unit regular insulin intravenously, followed by 5% dextrose in water at 200 mL/h

**D. Normal saline 2 L as an intravenous bolus and insulin intravenous infusion at 0.1 U/kg/hr

A 55-year-old man with a family history of type 2 diabetes undergoes screening (see lab results).

✓

Blood pressure 130/85 mmHg
Heart rate 80 /min
Height 185 cm
Weight 91 kg

Test Result Normal Values
Glucose, fasting 7.4 3.5-6.5 mmol/L
Hemoglobin A1C 6.3 4.7-5.6%

Which of the following should be recommended?

A. Random plasma glucose

B. Haemoglobin A1C after 6 weeks

C. Fasting plasma glucose after 3 months

**D. 2-hour 75 g oral glucose tolerance test

A 55-year-old man with a family history of type 2 diabetes undergoes screening .He gives the history of polyuria (see lab results).

Blood pressure 130/85 mmHg
Heart rate 80 /min
Height 185 cm
Weight 91 kg

Test Result Normal Values
Glucose, fasting 7.0 3.5-5.5 mmol/L
Hemoglobin A1C 7.1 5.7-6.4%

Which of the following is the most likely diagnosis?

A. Prediabetes

**B. Type 2 diabetes

C. Impaired glucose tolerance

D. Mature onset diabetes of youth

A 45-year-old man is diagnosed with type 2 diabetes 3 months ago, and started on metformin 500 mg TDS, comes for his first follow-up (see lab results).

Blood pressure 125/75 mmHg
Heart rate 80 /min

Test Result Normal Values
Glucose, fasting 7.4 3.5-6.5 mmol/L
Creatinine 125 44-115 µmol/L
HbA1C 6.8 4.7-5.6 %

Which of the following investigations is recommended to assess his renal function annually?

A. Serum creatinine

B. Urine microalbumin

**C. Urine albumin/creatinine ratio

D. Estimated glomerular filtration rate

✓ A 55-year-old woman has had type 2 diabetes for the past 20 years. She is on an 1800 kcal/day diet and takes metformin 850 mg 3 times a day (see lab results).

Blood pressure 130/85 mmHg
Heart rate 80 /min

Test Result Normal Values
Glucose, fasting 7.1 3.5-6.5 mmol/L
HbA1C 7.8 4.7-5.6 %

What should be the target Haemoglobin A1C percentage?

A. <5.0

B. <5.5

C. <6.0

**D. <7.0

Which of the following findings in the urine would indicate diabetic nephropathy in type 2 diabetes?

A. Hematuria

**B. Proteinuria

C. Hyaline casts

D. Red blood cell casts

A 28-year-old woman developed gestational diabetes during her second pregnancy. She gave birth to a healthy baby 6 months ago. There is a strong family history of type 2 diabetes and now wants to be evaluated for diabetes (see lab results).

Height 166 cm
Weight 91 kg

Test Result Normal Values
Glucose, fasting 6.5 3.5-6.5 mmol/L
HbA1C 5.5 4.7-5.6 %

Which of the following is the most appropriate therapy?

A. Insulin

B. Acarbose

C. Glyburide

**D. Metformin

A 38-year-old man is unable to lose weight despite being on an intensive lifestyle management plan of a low calorie diet and exercise (see lab results).

Blood pressure 145/95 mmHg
Heart rate 80 /min
Height 173 cm
Weight 125 kg

Test Result Normal Values
Glucose, fasting 7.1 3.5-6.5 mmol/L
HbA1C 8.1 4.7-5.6 %

Which of the following is the most appropriate advice to reduce weight?

**A. Bariatric surgery

B. Intensify exercise

C. Further reduce calories in diet

D. Weight reducing medications

A 66-year-old woman has recently been found to have high blood pressure. She had a cholecystectomy 15 years ago and has osteoarthritis in the knees for which she uses ibuprofen (see lab results).

Blood pressure 160/95 mmHg
Heart rate 84 /min

Test Result Normal Values
Creatinine 138 44-115 µmol/L
Sodium 142 134-146 mmol/L
Potassium 2.9 3.5-5.1 mmol/L
Chloride 100 97-108 mmol/L
Bicarbonate 31 21-28 mmol/L

Which of the following is the most likely Diagnosis?

A. Essential hypertension

B. Pheochromocytoma

**C. Primary hyperaldosteronism

D. NSAIDs induced hypertension

A 28-year-old patient presents with a history of 10-day of palpitations, sweating and neck discomfort (see lab results).

Blood pressure 110/70 mmHg
Heart rate 116 /min
Respiratory rate 18 /min
Temperature 37.7° C
Oxygen saturation 95% on room air

Test Result Normal Values
Thyroxine (T4 free) 76.5 8.5 - 15.2 pmol/L
Thyroid-Stimulating Hormone 0.15 0.4 - 5.0 µU/L
WBC 5.2 4.5-10.5 x 109/L
ESR 73 2-10 mm/h

Which of the following is the most likely diagnosis?

A. Graves' disease

**B. Subacute thyroiditis

C. Hashimoto's thyroiditis

D. Multinodular toxic goiter

A 72-year-old patient is evaluated for mid-thoracic back pain. The patient does not smoke cigarettes and rarely drinks alcohol. The only medications taken are aspirin, calcium supplements, and a multivitamin. Very few dairy products are consumed. On physical examination, the patient has a mild dorsal kyphosis with mild tenderness over the mid and lower thoracic regions (see lab results and report).

Test Result Normal Values
Thyroid-Stimulating Hormone 8.2 0.4 - 5.0 µU/L
Calcium 2.45 2.15-2.62 mmol/L
Phosphate 1.26 0.82-1.51 mmol/L
Albumin 35 34-56 g/L
Alkaline phosphatase 290 39-117 U/L
T-Score (Bone mineral Spine L1-4) -1.9 > -1
T-Score (Bone mineral Total hip) -2.1 > -1

24 Urine Analysis
Test Result Normal Values
Urinary calcium 5.1 < 7.5 mmols /day

X-ray Spine:
Compression fractures at T8, L2 and L3.

Which of the following is the most likely diagnosis?

A. Paget's disease

B. Osteomalacia

**C. Osteoporosis

D. Osteopenia

A 65-year-old patient presents with a 3-day history of seizures (see lab results).

Test Result Normal Values
Sodium 112 134-146 mmol/L
Potassium 3.9 3.5-5.1 mmol/L
Urea 3.4 2.75-7.4 mmol/L
Serum osmolality 240 280-300 mmol/kg
24 Urine Analysis
Test Result Normal Values
Osmolality 860 280-910 mOsm/Kg H2O

Which of the following is the most likely diagnosis?

A. Conn's syndrome

B. Addison's disease

C. Cushing's syndrome

**D. Inappropriate anti-diuretic hormone secretion

✓ A 36-year-old patient presents with a 6-month history of decreased libido and weak erections (see lab results).

Test Result Normal Values
Prolactin 2100 < 870 pmol/L
Follicle-stimulating hormone 12 5-20 IU/L
Luteinizing hormone 18 5-22 U/L

Which of the following is the next most useful investigation?

A. Abdominal/pelvic CT scan

B. Fasting blood sugar

C. Testosterone level

**D. Brain MRI

A 40-year-old man presents to the doctor with a history of central weight gain, change in facial appearance, poor libido, easy bruising, and back pain. Examination reveals pigmentation of the skin, a buffalo hump, edema, proximal muscle wasting, and an elevated blood pressure.

Which of the following is the most likely diagnosis?

**A. Cushing's disease

B. Adrenal adenomas

C. Adrenal carcinomas

D. Alcohol-induced pseudo-cushing's syndrome

A 30-year-old man presents with a history of increased urine output, especially during the night and increased thirst for the past 2 months (see report).

Water deprivation test:
Serum osmolality above normal without adequate concentration of urine osmolality; no response to desmopressin administration.

Which of the following is the most likely diagnosis?

[✓ A. Nephrogenic diabetes insipidus]

B. Surreptitious diuretic abuse

**C. Central diabetes insipidus

D. Hysterical polydipsia

A 60-year-old patient complains of irritability, heat intolerance and recent onset of heart palpitations. The neck examination is normal. (see lab results).

Test	Result	Normal Values
Thyroid-Stimulating Hormone	0.1	0.4 - 5.0 µU/L
Thyroxine (T4 free)	30.4	8.5 - 15.2 pmol/L
Triiodothyronine (T3 free)	9.5	3.5 - 6.5 pmol/L

Which of the following is the most likely diagnosis?

A. Sick euthyroid syndrome

B. Primary hypothyroidism

**C. Thyrotoxicosis

D. T3 Toxicosis

A patient with hypothyroidism, on 0.025 mg of L-thyroxin, complains of fatigue, cold intolerance, and weight gain (see lab result).

Blood Pressure 120/60 mmHg
Heart Rate 57 /min
Respiratory Rate 16 /min
Temperature 36.6° C

Test	Result	Normal Value
TSH	19.9 mU/L	0.4-6.5 mU/L

Which of the following is the most appropriate treatment?

**A. Increase L-thyroxin and check TSH in 6 weeks

B. Increase L-thyroxin and check TSH in 3 weeks

C. Decrease L-thyroxin and check TSH in 6 weeks

D. Decrease L-thyroxin and check TSH in 3 weeks

A 35-year-old man complains of discomfort in both breasts with milk production when expressed manually for a month. It has been associated with headache and low sexual interest. He has been married for 3 years and his wife has not been able to become pregnant. On examination, he has mild acne on his face (see lab results).

Weight 97 kg
Height 173 cm

Test Result Normal Values
Thyroxine (T4 free) 8.4 8.5 - 15.2 pmol/L
Thyroid-Stimulating Hormone 6.8 0.4 - 5.0 µU/L
Follicle-stimulating hormone 5.8 5-20 IU/L
Luteinizing hormone 7.1 5-22 U/L
Prolactin 2350 < 870 pmol/L

Which of the following is the most likely visual field defect?

A. Junctional scotoma

**B. Bitemporal hemianopia

C. Superior quadrantanopia

D. Homonymous hemianopia

A 32-year-old woman complains that her menstrual cycle has stopped for the last 9 months. She also has discomfort in both breasts with milk production when expressed manually. Her sexual drive has been decreased for the last year. She has been married for 3 years and failed to become pregnant. The physical examination is normal and pregnancy test is negative (see lab results).

Weight 81 kg
Height 165 cm

Test Result Normal Values
Thyroxine (T4 free) 9.1 8.5 - 15.2 pmol/L
Thyroid-Stimulating Hormone 5.2 0.4 - 5.0 µU/L
Follicle-stimulating hormone 5 5-20 IU/L
Luteinizing hormone 10 5-22 U/L
Prolactin 2450 < 870 pmol/L

Which of the following is the most appropriate investigation?

**A. Brain MRI

B. Neck ultrasound

C. Pelvis ultrasound

D. Breast Mammogram

A 44-year-old woman presents with a neck swelling for the last 2 months. It is associated with frequent bowel movement, increased appetite and weight loss. Over the last 6 months, her period has stopped and she has noticed a milky discharge from her nipples. On physical examination, there is a small diffuse goiter. Pregnancy test is negative (see lab results).

Blood pressure 120/75 mmHg
Heart rate 80 /min
Respiratory rate 17 /min
Temperature 37.1° C

Test Result Normal Values
Thyroxine (T4 free) 19.5 8.5 - 15.2 pmol/L
Thyroid-Stimulating Hormone 8.7 0.4-5.0 mU/L

Which of the following is the most appropriate radiological imaging?

**A. Pituitary MRI

B. Thyroid ultrasound

C. Ovarian ultrasound

D. Breast mammogram

A 50-year-old woman with major depression, complains of excessive urination and thirst for 2 months. She had a right mastectomy 1 year ago. 3 months before, lung metastases was diagnosed. The physical examination is normal except for the surgical scar (see lab results).

Blood pressure 115/75 mmHg
Heart rate 80/min
Respiratory rate 16 /min
Temperature 37.1° C

Test Result Normal Values
Sodium 150 134-146 mmol/L
Potassium 3.8 3.5-5.1 mmol/L
Urea 6.7 2.75-7.4 mmol/L
Creatinine 111 44-115 µmol/L
Fasting blood sugar 6.8 3.5-6.5 mmol/L
24 Urine Analysis
Test Result Normal Values
Osmolality 110 280-910 mOsm/Kg H2O

Which of the following is the most likely diagnosis?

**A. Diabetes insipidus

B. Adipsic hypernatremia

C. Psychogenic polydipsia

D. Syndrome of Inappropriate Antidiuretic Hormone Secretion

A 28-year-old woman presents with a painful neck swelling for the last week. The swelling has been increasing over time. She has a sore throat and difficulty in swallowing. She has frequent bowel motions. On a physical examination, there is a diffuse tender anterior neck swelling and both hands show a fine tremor (see lab results).

Blood pressure 140/90 mmHg
Heart rate 105 /min
Respiratory rate 18 /min
Temperature 38.1° C

Test Result Normal Values
Thyroxine (T4 free) 26.4 8.5 - 15.2 pmol/L
Thyroid-Stimulating Hormone 0.03 0.4 - 5.0 µU/L
ESR 58 3-15 mm/h

Which of the following is the most appropriate treatment?

**A. Predinsone

B. Methimazole

C. Propythiouracil

D. Radioactive iodine

A 45-year-old woman comes to the clinic for a follow-up. She was started on levothyroxine for treatment of hypothyroidism 2 weeks before (see lab result).

Test Result Normal Value
TSH 7.5 0.4-6.5 mU/L

Which of the following would be the best treatment plan?

**A. Same dose, check TSH level in 1 to 2 months

B. Reduce dose, check TSH level in 1 to 2 months

C. Reduce dose, check TSH level in 48 to 72 hours

D. Stop treatment until TSH normal, and then restart

A 23-year-old pregnant patient complains of irritability and sweating. On examination, she is thin and appears anxious. Her thyroid gland is nodular, diffusely enlarged, but not tender. She has brisk deep tendon reflexes. Her uterus is appropriate for gestational age (see lab results and report).

Blood pressure 115/70 mmHg
Heart rate 110 /min
Respiratory rate 12 /min

Temperature 37.1 °C

Test Result Normal Values
Thyroid-Stimulating Hormone 0.1 0.4 - 5.0 μU/L
Antithyroid Antibody negative negative

Thyroid ultrasound:
Diffuse nodular enlargement. No cyst identified.

Which of the following is the best next step in management?

A. Thyroid biopsy

B. Radioactive iodine

C. Subtotal thyroidectomy

**D. Anti-thyroid medication

A patient has presented with a 2 cm solid thyroid nodule on the Ultrasound. Which of the following is the best next step in the management?

A. Repeat the ultrasound after 6 months

B. Thyroid scan with Iodine

**C. Fine needle aspiration

D. CT neck

A 26-year-old woman has become increasingly tired for the past 2 months. During the past week she has noted purple blotches on her skin. On physical examination, there are petechial haemorrhages on her trunk and extremities (see lab results).

Test Result Normal Values
Hb 72 120-160 g/L
HCT 0.22 0.37-0.48
MCV 92 80-95 fl
WBC 1.5 4.5-10.5 x 109/L
Platelet count 10 150-400 x 109/L

Which of the following is the most likely diagnosis?

**A. Aplastic anaemia

B. Sickle cell anaemia

C. Haemolytic anaemia

D. Iron deficiency anaemia

A 26-year-old woman presents for pre-marital counselling (see lab results).

Test Result Normal Values
Hb 110 120-160 g/L
HCT 0.33 0.37-0.48
MCV 67 80-95 fl
Hb A2 4.5 <3.5 %
Sickling Negative

Which of the following is the most likely diagnosis?

**A. β Thalassemia minor

B. β Thalassemia major

C. Sickle β thalassemia

D. β Thalassemia intermedia

A 55-year-old man presents to the clinic with headaches and increased tiredness for the last 4 months. On physical examination he is afebrile and his spleen tip is palpable (see lab results and report).

Test Result Normal Values
Hb 200 130-170 g/L
HCT 0.67 0.42-0.52
MCV 93 80-95 fl
WBC 12 4.5-10.5 x 109/L
Platelets 420 150-400 x 1099/L

The serum erythropoietin:
Very low levels.

Which of the following is the most likely diagnosis?

A. Myelofibrosis

**B. Polycythemia rubra vera

C. Congenital heart disease

D. Essential thrombocythemia

A 26-year-old man has been diagnosed with sarcoidosis 2 years before, he now presents with mild pallor (see lab results and report)

Test Result Normal Values
Hb 100 130-170 g/L
HCT 0.29 0.42-0.52
MCV 79 80-95 fl
WBC 7.5 4.5-10.5 x 109/L
Platelet count 200 150-400 x 109/L
Ferritin 915 22-561 ng/L

Haemoglobin electrophoresis:
Normal.

Which of the following is the most likely diagnosis?

A. Sideroblastic anaemia

B. Beta Thalassemia minor

C. Iron deficiency anaemia

**D. Anaemia of chronic disease

A 30-year-old man comes to the Outpatient Clinic because of the recent development of marked peripheral oedema. He has no significant past medical history. On examination, he has 4+ edema of the lower extremities (see lab results and reports).

Blood pressure 105/80 mmHg

Test Result Normal Values
Albumin 18 34-56 g/L
Urea 5 2.8-8.9 mmol/L
Creatinine 85 44-115 µmol/L

Dipstick analysis:
4+ proteins.

Urinalysis:
Oval fat bodies, and some hyaline casts and occasional RBCs.

Which of the following is the most likely diagnosis?

**A. Interstitial nephritis

B. Nephritic syndrome

C. Nephrotic syndrome

D. Ischemic nephropathy

A 30-year-old overweight man presents to the general physician with 6-month of intermittent epigastric burning pain. He has also noted that for the past 2 months he has been experiencing episodes of nausea, an unpleasant taste in the mouth, hoarseness, and a nocturnal cough.

Which of the following is the most likely diagnosis?

A. Peptic Ulcer

B. Atypical angina

C. Chronic cholelithiasis

**D. Gastroesophageal reflux disease

A 40-year-old man with Gastro Esophageal Reflux Disease presents to the general physician with 3-month history of intermittent retrosternal burning pain, worse on bending, nausea, regurgitation with an unpleasant taste in the mouth, and a nocturnal cough. The patient has been using over the counter antacids with no relief.

Which of the following is the most appropriate course of action?

A. Surgery

B. Antibiotic

C. Life style modification

**D. Proton pump inhibitors

An individual who has received all 3 doses of hepatitis B vaccine and has never had hepatitis B virus infection.

Which of the following serologic markers is expected to be positive?

A. HBcAb

**B. HBsAb

C. HBeAb

D. HBeAb and HBsAb

A 53-year-old woman presents to the Outpatient Department. She has been unwell for 6 months with arthralgia, fever, weight loss and more recently has developed pleuritic chest pains. She also has synovitis of the small joints of the hands. There were no rashes or nail fold infarcts. Heart sounds are normal (see lab results and reports).

Blood pressure 110/70 mmHg
Heart rate 70 /min
Respiratory rate 18/min

Test	Result	Normal Values
Hb	89	120-160 g/L
WBC	3.2	4-10.5 x 109/L
Platelets count	99	150-400 x 109/L
Neutrophils	80	40-60%
Lymphocytes	17	20-40 %
MCV	90	80-95 fl
C-reactive peptide	99	<8.2 mg/L
ESR	56	3-15 mm/h
Clotting time	7	5-10 min
Ferritin	920	22-340 µg/L
ANA	1:320	=1:40

Pulmonary Angiography CT:
Confirms a small left pleural effusion. There is no consolidation, pulmonary embolus and no lymphadenopathy.

ECG:
Sinus tachycardia.

Which of the following the most likely diagnosis?

A. Infective endocarditis

B. Adult-onset still's disease

**C. Systemic lupus erythematosus

D. Rheumatoid arthritis with vasculitis

What is the immunological status of a patient with negative HBsAg, positive anti-HBc and positive anti-HBs?

A. Immune due to hepatitis B vaccination

**B. Immune due to natural infection

C. Chronically infected

D. Acutely infected

A 45-year-old woman comes to the clinic complaining of episodes of pain with swelling and warmth of her hands and feet for the past 3 weeks. During these episodes, lasting hours to days, it is difficult for her to walk or to prepare meals. On physical examination, she has painful 1 cm subcutaneous nodules on the extensor surfaces of her elbows. Over the next 6 years, her hands become deformed so that it is difficult to perform tasks as simple as opening a door or buttoning her blouse.

Which of the following laboratory findings would confirm the diagnosis?

A. HLA-B27

B. ANA positive at 1:256

**C. Anti-CCP antibody positive

D. Markedly decreased serum complement

A 43-year-old patient man presents with headache and neck stiffness (see reports).

CSF Analysis:
Appearance cloudy
Glucose low
Protein high
White cells 100 /mm3 (70% polymorphs)

CT Brain:
Normal.

Which of the following is the most likely cause of the infection?

A. Cryptococcal

B. Tuberculous

**C. Bacterial

D. Viral

A 22-year-old man presents with altered sensorium for the last 2 days and headaches for 5 days, with a history of fever for the preceding month. On examination, there is nuchal rigidity (see lab results).

Test Result Normal Values
Hb 100 130-170 g/L
WBC 11 4.5-10.5 x 109/L
Glucose, fasting 7.22 3.5-6.5 mmol/L

Cerebrospinal Fluid:
Test Result Normal Values
Appearance turbid clear
Cells 240 0-3 /µL
Total protein 3.6 0.22-0.33 g/L
Glucose 2.7 2.50-3.89 mmol/L
Neutrophils 23 0-1%
Lympocytes 73 0-1%

Which of the following is the most likely diagnosis?

A. Septicaemia

**B. Tubercular meningitis

C. Phylogenetic meningitis

D. Viral meningoencephalitis

A 29-year-old woman comes to the Emergency Department with vomiting, profuse watery diarrhoea and abdominal cramps. It started within 4 hours of eating a steak in a local restaurant.

Which of the following is the most likely cause?

A. Escherichia coli

B. Salmonella spp.

C. Campylobacter jejuni

*D. Staphylococcus aureus

A 72-year-old man presents to the Emergency Department with fever, night sweating and cough for 2 weeks.

Which of the following is the most appropriate immediate action?

A. Bronchoscopy

B. Send sputum for Acid fast bacilli

**C. Isolate in a single, negative pressure room

D. Appointment in outpatient clinic after 2 weeks

A 47-year-old patient presents with 12-hour of severe pain and swelling of the right first metatarsophalangeal joint. On examination, the affected joint is erythematous and tender.

Blood pressure 110/ 65 mmHg
Heart rate 105 /min
Respiratory rate 12 /min
Temperature 38°C

Which of the following is the most likely cause?

**A. Sodium urate crystals

B. Staphylococcus aureus

C. Disseminated gonorrhea

D. Calcium pyrophosphate crystals

A 52-year-old patient presents with isolated pain and swelling of the left knee. Arthrocentesis demonstrates innumerable needle-shaped negatively birefringent crystals.

Which of the following is the most appropriate treatment?

A. Probenecid

B. Methotrexate

**C. Indomethacin

D. Sulfinpyrazone

A 32-year-old woman complains of severe joint pain in the fingers of both hands, especially in the morning during the winter months. Examination confirms deformity of her fingers (see image).

Which of the following is the most likely diagnosis?

A. Gout

B. Haemophilia

**C. Rheumatoid arthritis

D. Primary degenerative osteoarthritis

A 74-year-old woman complains of a deep, aching pain of the hip which is aggravated by walking. She states that after a busy day, the pain keeps her awake at night, and each morning her hip is stiff for several hours.

Which of the following is the most likely cause of the pain?

A. Depression

B. Osteomyelitis

C. Osteoporosis

**D. Osteoarthritis

A 60-year-old woman complains of pain in her right knee for the last 3 years. The pain is worse with activity and relieved by rest and analgesics. Physical examination reveals that she has a varus knee deformity and tenderness over the medial joint line (see image).

Which of the following is the most likely diagnosis?

A. Inflammatory arthritis

B. Medial meniscus tear

C. Septic arthritis

**D. Osteoarthritis

A 58-year-old man presents to the Outpatient Clinic with very severe pain, swelling and redness of the first metatarsophalangeal joint. Some joint fluid is withdrawn (see lab results and reports).

Test Result Normal Values
Colour yellow clear
Clarity opaque transparent
WBC per mm3 100,000 < 200
PMNs 75 < 25%

Fluid Exam:
Negatively birefringent urate crystals are seen on polarizing examination of the synovial fluid.

Hands X-ray:
Juxta-articular punched-out sclerotic erosions involving the first metatarsophalangeal and interphalangeal joints with associated periarticular soft tissue swelling.

Which of the following treatments should be avoided in the current situation?

A. NSAID

B. Colchicine

**C. Allopurinol

D. Corticosteroids

Which of the following crystals is responsible for the arthritic symptoms of pseudogout?

A. Calcium urate

B. Calcium oxalate

C. Calcium chloride

**D. Calcium pyrophosphate

A 29-year-old woman is diagnosed with rapidly progressive glomerulonephritis.

Which of the following pathological changes is characteristic of this diagnosis?

A. Dilated proximal tubules with inflammation

**B. Crescent formation within Bowman's space

C. IgA deposition in glomerular capillaries

D. Fat globules in urine sediment

A young man comes into the clinic with intermittent haemoptysis for 2 months, associated with some blood in his urine. He is a non-smoker and was previously in excellent health. He also describes a weight gain of 20 kg over the past 3 weeks, with "puffy eyes" in the morning. He has an elevated serum creatinine concentration (see report).

Lung Biopsy:
Serum immunoglobulin on basement membranes.

Which of the following is the most likely diagnosis?

A. Acute myocardial infarction

**B. Goodpasture syndrome

C. DiGeorge syndrome

D. Graves' disease

Which of the following sites is the best to aspirate a sample of right pleural effusion with a syringe and needle?

A. Midclavicular line 6th intercostals space

B. Midaxillary line 6th intercostals space

**C. Midaxillary line 9th intercostals space

D. Parasternal 6th intercostals space

A 45-year-old man presents with difficulty in breathing and a nocturnal cough for the last 3 weeks. Spirometry results show a forced vital capacity and the FEV/FVC ratio lower than normal.

Which of the following consistent with these findings?

A. Reduced strength of inspiratory muscles

B. Decreased lung compliance

C. Increased lung compliance

**D. Increased airway resistance

What is the optimal treatment for community-acquired pneumonia in an otherwise healthy patient?

A. Fluoroquinolone

**B. Azithromycin

C. Vancomycin

D. Dicloxacillin

What is the optimal duration of anticoagulation following an initial episode of pulmonary embolism?

A. 6 weeks

B. 3 months

**C. 6 months

D. 12 months

In which of the following conditions is interstitial pneumonitis a characteristic histopathologic finding?

**A. Viral pneumonia

B. Lobar pneumonia

C. Bronchopneumonia

D. Secondary tuberculosis

Which of the following pneumoconiosis will commonly predispose to the development of pulmonary tuberculosis?

**A. Silicosis

B. Asbestosis

C. Anthracosis

D. Farmer's lung

A 38-year-old woman with pleurisy requires a thoracentesis. The needle should be placed on the midaxillary line of the affected side.

Which rib level should the needle penetrate through?

A. At the 4TH

B. At the 5TH

C. Between the 6TH and 7TH

**D. Between the 8TH and 10TH

A 72-year-old man presents to the Emergency Department with fever, night sweats and cough for 2 weeks (see report).

Chest X-ray:
Right upper lobe consolidation.

Which of the following is the best next step in management?

A. Perform bronchoscopy

B. Admit the patient to the Intensive Unit

C. 2 weeks follow up in outpatient

**D. Isolate the patient in a single, negative pressure room

Which of the following can improve survival in patients with severe chronic obstructive pulmonary disease?

A. Inhaled corticosteroids

**B. Supplemental oxygen

C. Smoking cessation

D. Beta agonist

A 25-year-old patient with moderate persistent asthma is currently on a low-dose, inhaled corticosteroid but needs to use a beta-2 agonist rescue inhaler at least once a day.

Which of the following should be added to the current treatment?

A. Theophylline to steroid regimen

B. Leukotriene inhibitor to the steroid regimen

**C. Long-acting beta-2 agonist to steroid regimen

D. Ipratropium bromide to corticosteroid regimen

A 55-year-old patient with chronic obstructive pulmonary disease presents with shortness of breath. The patient is in severe respiratory distress and hypoxemic with decreased breath sounds and a prolonged expiration phase. There is no improvement after bronchodilators. The patient is conscious with a pH of 7.3.

Which of the following is the best next step in management?

A. Aminophylline IV

B. Methylprednisolone IV

C. Repeat bronchodilators

**D. Non-invasive positive pressure ventilation

Which of the following is the most effective treatment for adults with obstructive sleep apnoea?

A. Modafinil

B. Maintain a BMI less than 30 kg/m2

C. Mandible-positioning oral appliances

**D. Continuous positive airway pressure

A 28-year-old patient with mild intermittent asthma, has daytime symptoms about once to twice a week, and none at night.

Which of the following initial treatment should be given when necessary?

**A. Inhaled short-acting beta-2 agonist

B. Inhaled high-dose corticosteroids

C. Inhaled leukotriene modifiers

D. Oral aminophylline

A 28-year-old woman has had mild intermittent asthma for years. She uses a short-acting bronchodilator, as needed. Over the past 2 months, she has noticed that she is using her inhaler at least 3 times a week, and on occasions has had to wake up in the middle of the night to use her inhaler.

Which of the following treatments should be added?

A. Leukotriene receptor antagonist

B. Long-acting beta-agonist

**C. Inhaled corticosteroid

D. Cromolyn

A 55-year-old man presents with shortness of breath and a productive cough. The patient has a history of smoking. On auscultation, there is wheezing throughout the chest (see reports).

Chest X-ray:
Normal.

Arterial Blood Gases:
Normal.

Which of the following is the most likely diagnosis?

A. Pulmonary fibrosis

B. Occupational lung disease

C. Idiopathic pulmonary hemosiderosis

**D. Chronic obstructive pulmonary disease

A 25-year-old patient suddenly develops chest pain and dyspnoea. Vocal and tactile fremitus are reduced, and breath sounds are diminished (see report).

Chest X-ray:
It shows absent lung markings on the left side.

Which of the following is the most likely diagnosis?

**A. Spontaneous pneumothorax

B. Pulmonary tuberculosis

C. Pulmonary embolism

D. Emphysema

Which of the following is the most likely cause of lobar pneumonia in adults?

A. Klebsiella pneumonia

B. Haemophilus influenzae

C. Staphylococcus pyogenes

**D. Streptococcus pneumonia

A 45-year-old man is admitted with general tiredness and fever. There is a past history of a chest infection of 4-week duration, for which he was given oral antibiotics. He felt better initially, but never fully recovered and is now becoming worse (see report).

Chest X-ray:
It shows a right-sided pleural effusion.

Which of the following is the most likely diagnosis?

A. Lung cancer

B. Tuberculosis

C. Pulmonary embolism

**D. Para-pneumonic effusion

A 45-year-old nurse working in the pulmonary clinic, complains of fever and a productive cough for the last 3 months. She has received 2 courses of oral antibiotics, but showed no improvement (see image).

Which of the following is the most likely diagnosis?

**A. Pulmonary tuberculosis

B. H. Influenza pneumonia

C. Infectious mononucleosis

D. Streptococcal pneumonia

A 55-year-old patient presents to the clinic with shortness of breath and a cough productive of yellow sputum for the past 2 days. There has also been blood-stained sputum for the last 3 hours. The patient has smoked 2 packs of cigarettes a day for the past 35 years. On examination, there are rhonchi, wheezing, and crepitations heard over the right hemothorax (see report).

Blood pressure 110/70 mmHg

Heart rate 84 /min
Respiratory rate 22 /min
Temperature 38.8° C
Oxygen saturation 95% on room air

Chest X-ray:
It shows a dense infiltrate in the right lower lobe.

Which of the following is the most likely diagnosis?

**A. Community acquired pneumonia

B. Acute bronchitis

C. Tuberculosis

D. COPD

A 27-year-old woman with asthma has not had a severe attack for the last 3 months. However, she has a history of cough and wheezing 2-3 times each week.

Which of the following is the most appropriate management?

A. Ipratropium bromide

**B. Inhaled corticosteroid

C. Salbutamol

D. Salmeterol

A 21-year-old woman comes to the clinic with episodes of shortness of breath on exertion for one year. She has to stop after 15-20 minutes of exercise, because of dyspnoea and coughing, which get better after about one hour of rest. There are no symptoms at rest. Physical examination and spirometry are normal.

Blood pressure 125/75 mmHg
Heart rate 80 /min
Respiratory rate 12 /min
Temperature 37.0° C

Which of the following is the most appropriate inhaled treatment before exercise?

A. Salmeterol

**B. Salbutamol

C. Budesonide

D. Ipratropium

A 42-year-old man with asthma presents with daily symptoms despite regularly using a long acting β-agonist inhaler and an inhaled high-dose corticosteroid. He also uses a short acting β-agonist inhaler as "rescue" medication. These episodes also wake him from sleep 2-3 times a week. Physical examination shows bilateral (see table).

Blood pressure 140/85 mmHg
Heart rate 90 /min
Respiratory rate 18 /min
Temperature 36.7° C

Forced Expiratory Volume in 1 Second Normal value
Before bronchodilator 65 % 25-75 %
After bronchodilators 91 %

Which of the following is the most appropriate next step in management?

A. Add theophylline

B. Add a leukotriene inhibitor

**C. Observe the patient using his inhaler

D. Treat for gastroesophageal reflux disease

A 67-year-old patient presents to the Emergency Department with chest pain, shortness of breath, and haemoptysis following a car trip for more than 5 hours (see report).

ECG:
Right axis deviation, an S1-Q3-T3 pattern, and a right bundle branch block.

Which of the following is the most likely diagnosis?

A. Acute myocardial infarction

B. Bronchogenic carcinoma

**C. Pulmonary embolism

D. Pericarditis

A 55-year-old smoker presents to a clinic with progressive shortness of breath (see report).

Chest X- ray:
It reveals a massive right pleural effusion.

Which of the following is the best next step in management?

**A. Thoracentesis

B. High resolution CT scan

C. Intercostal tube under water seal

D. Repeated bronchodilator inhalations

A 28-year-old patient develops the sudden onset of dyspnoea and tachycardia 5 days post a knee surgery.

Which of the following is the most likely diagnosis?

**A. Pulmonary embolism

B. Myocardial infarction

C. Ventricular tachycardia

D. Pulmonary emphysema

A patient with stage IIIB small cell lung cancer complains of new onset of back pain for the past 12 hours. Initial neurological examination is normal.

Which of the following is the most appropriate immediate action to take?

A. MRI

B. Radiation therapy

C. Take no immediate action

**D. High dose IV corticosteroids and MRI

On a follow-up consultation of a patient with a squamous cell carcinoma, some abnormalities are noted in blood analysis (see lab results).

Test Result Normal Values
Parathyroid hormone 1.0 1.1-5.3 pmol/L
Calcium 3.30 2.15-2.62 mmol/L
Calcium ionised 1.6 1.1-1.3 mmol/L
Sodium 140 134-146 mmol/L
Potassium 4.3 3.5-5.1 mmol/L

Which of the following is the most likely cause of the metabolic abnormality?

A. Renal failure

B. Primary hyperparathyroidism

C. Secondary hyperparathyroidism

**D. Secretion of PTH-related peptide by the tumour

A 78-year-old man and current smoker, with 50 pack-year smoking history, complains of shortness of breath, dry cough and fatigue progressing over the past 8 weeks. The patient also reports a significant weight loss, corresponding to approximately 15% of body weight over the last 12 weeks. Physical examination is normal.

Which of the following is the most likely diagnosis?

A. COPD

B. pnemonia

**C. lung cancer

D. Interstitial lung disease

A 20-year-old man with sickle cell anaemia presents with right sided chest pain and shortness of breath for 2 days. It was associated with pain in both legs and back. On examination, fine crackles were heard in right middle and lower zones (see image).

Blood pressure 125/75 mmHg
Heart rate 92 /min
Respiratory rate 25 /min
Temperature 37.9° C
Oxygen saturation 91% on room air

Which of the following is the most likely diagnosis?

A. Viral pericarditis

B. Pulmonary embolism

**C. Acute chest syndrome

D. Pneumocystis carinii pneumonia

A 20-year-old man with sickle cell anaemia presents with right sided chest pain and shortness of breath for 2 days. It is associated with pain in both legs and back. On examination, fine crackles are heard in right middle and lower zones (see image).

Blood pressure 125/75 mmHg
Heart rate 92 /min
Respiratory rate 25 /min
Temperature 37.9° C
Oxygen saturation 91% on room air

What is the most effective drug to reduce this incidence?

A. Folic acid

**B. Hydroxyurea

C. 5-azacytidine

D. Erythropoietin

A 78-year-old man presents with 2-year history of slow and progressive deterioration in his memory. The patient is able to perform some activities of daily living, including dressing and bathing. His personality has changed from that of a kind and caring person into someone who has periods of agitation and aggression. Neurologic and musculoskeletal examination cannot be carried out.

Which of the following is the most likely diagnosis?

A. Mixed dementia

**B. Alzheimer's disease

C. Multi-infarct dementia

D. Major depressive disorder

A 46-year-old women with schizophrinea presents to the clinic with 1-month history of abnormal orofacial movements. She has been prescribed amisulpride 600mg for many years and procyclidine 5 mg daily.

Which of the following is the most likely cause?

**A. Tardive dyskinesia

B. Catatonic phenomenon

C. Cerebrovascular accident

D. Positive symptoms of schizophrinea

Which of the following is the peak of nicotine withdrawal symptoms after smoking cessation?

A. 1 day

**B. 2 to 4 days

C. 5 to 7 days

D. 8 to 10 days

Which of the following is an alternative treatment for severe depression?

A. Psychotherapy

B. Tricyclic antidepressants

**C. Electroconvulsive therapy

D. Electroencephalogram therapy

Which of the following is the antidote for an opiate overdose?

**A. Naloxone

B. Flumazenil

C. Lorazepam

D. Buprenorphine

Which of the following is the most likely side effect of bupropion when prescribed for smoking cessation?

A. Arrhythmia

B. Xerostomia

C. Headache

**D. Seizure

A 24-year-old inactive woman presents to the clinic with 5-month history of amenorrhea. On examination, she has a body mass index of 20, stable for the last 5 years (see lab results).

Pregnancy test:
Negative.

Which of the following is the most likely diagnosis?

**A. Eating disorder

B. Illegal drug use

C. Pituitary neoplasm

D. Chronic depression

Which of the following factors is the most important in determining the success of a smoking cessation program?

**A. Patient's desire to quit smoking

B. Behaviour-modification

C. Pharmacologic agents

D. Medical counseling

A 45-year-old man newly diagnosed with type 2 diabetes presents to the clinic for futhur management. He is on time for the appointment, but because of an emergency case, the physician arrive late to the clinic. When the physician walks in, the patient appears extremely angry.

Which of the following is the most appropriate response by the physician?

**A. Acknowledge the patient's anger

B. Explore the reasons for the anger

C. Help the patient understand their anger

D. Empathise with newly diagnosed diabetic patient

A 56-year-old man presents to the clinic for evaluation. The physician has difficulty in obtaining accurate information regarding reason of attendance.

Which of the following is the most appropriate next step in consultation?

A. Use medical terms that the patient understands

B. Control the interview with direct questions

C. Involve the patient in the treatment plan

**D. Use open-ended questions

A 76-year-old man admitted with diagnosis of pneumonia has fluctuating levels of attention, changes in awareness, and a marked disturbance of the sleep/wake cycle.

Which of the following is the most appropriate initial management?

A. Isolation in a quiet, dark room

**B. Allow a relative to stay with the patient

C. Haloperidol regularly until symptoms stop

D. Risperidone regularly until symptoms abate

A 27-year-old woman delivered a healthy baby 3 months ago. She is currently undergoing psychotherapy for postpartum depression.

Which of the following is the most appropriate to be added to optimize treatment?

A. Prescribe very small doses of imipramine

B. Encourage continuation of breastfeeding

**C. Include family members in therapy

D. Prescribe a calcium supplement

A 23-year-old man complains of having an unusually prominent jaw. He has been seen by 3 plastic surgeons, but each one has refused to do anything. On examination, he appears depressed and has no visible protrusion, the jaw and face are normal. He has past medical history of rhinoplasty and blepharoplasty.

Which of the following is the most likely diagnosis?

A. Dysthymia

B. Hypochondriasis

C. Somatization disorder

**D. Body dysmorphic disorder

A 41-year-old man presents to the clinic requesting a complete examination to exclude colon cancer. He recently had some investigations done and provided a list of test results. He complains that this fear is interfering severely with his work and social activities.

Which of the following is the most likely diagnosis?

**A. Hypochondriasis

B. Factitious disorder

C. Somatization disorder

D. Obsessive-compulsive disorder

A 16-year-old boy learns about the death of his father and within hours, his speech becomes disorganized, he is walking outside of his house with no clothes on, and he claims that his father is inside the house and telling him to do these things in his honour. The symptoms resolved after 3 days, and the son returned to full pre-morbid level of function but is obviously confused over the events of the past few days.

Which of the following is the most likely diagnosis?

A. Schizophreniform disorder

B. Schizo-affective disorder

**C. Brief psychotic disorder

D. Reactive schizophrenia

Which of the following is a prediction of the feeling of hopelessness?

A. Impulse control problems

B. Gender identity disorder

**C. Suicidal behaviour

D. Panic disorder

A 20-year-old woman presents to the clinic with history of abdominal pain, nausea, vomiting, localized weakness to the right leg, and has a history of irregular menses. In the past, she has sought treatment for head, back, joint, and chest pain. Factitious disorder and malingering have been excluded as diagnoses.

Which of the following is the most likely diagnosis?

A. Hypochondriasis

B. Conversion disorder

**C. Somatization disorder

D. Somatoform pain disorder

Which of the following investigations should be recommended for elderly patient with cognitive deficit?

A. Brief IQ test

**B. Hearing loss evaluation

C. Wechsler memory scale

D. Involuntary movement test

An 8-year-old boy recently moved to another city. Soon after moving, school started, but the boy hesitated to make friends with anyone and had a hard time paying attention in class.

Which of the following is the most likely diagnosis?

A. Dysthymia

B. Hypomania

C. Depression

**D. Adjustment disorder

A 48-year-old man presents for a routine visit, while reporting his medical history, he reveals a significant alcohol intake. The physician wants to assess the drinking further using the cut-annoyed-guilty-eye (CAGE) screening questionnaire.

Which of the following is a question in the CAGE screening questionnaire?

A. "Do you eat more after you drink?"

B. "Do you think you are an alcoholic?"

**C. "Have you ever felt guilty about your drinking?"

D. "How many drinks do you consume on a daily basis?"

A 46-year-old woman presents to the clinic with 8-month history of irritability, excessive worry, and difficulty falling asleep and concentrating.

Which of the following is the most likely diagnosis?

A. Mood disorder not otherwise specified

B. Major depressive disorder with anxiety

C. Anxiety disorder with depression

**D. Generalized anxiety disorder

A 42-year-old woman is concerned about losing her job because of tiredness and would like to take antidepressants because of having a difficult time falling asleep and getting up in the morning. Her sleep disturbance is related to the inability to relax after getting into bed. She is repeatedly checks to make sure that the door is locked, the oven is off, and the children's school supplies are organized. A ~~similar routine occurs in~~ the morning. She states that her behaviour is out of control but if is not done, she will not be able to sleep or leave the house.

Which of the following disorders is the most likely diagnosis?

**A. Obsessive-compulsive

B. Generalized anxiety

C. Somatization

D. Delusional

A 35-year-old healthy man presents to the clinic with a 3-month history of feeling depressed. He is distressed at work and burnt-out. 4 months earlier, he was promoted to a managerial position and was having an interpersonal conflict with 2 of the employees.

Which of the following is the most appropriate next step in management?

A. Selective serotonin reuptake inhibitors

B. TCA tricyclic antidepressant

**C. Supportive psychotherapy

D. Phenothiazine

An 18-year-old man presents to the Emergency Department with 20-minute history of light-headedness, headaches, and nausea. He complains of tingling around the mouth and in the fingertips. On examination, he is anxious, tremulous, sweating, and breathing heavily.

Which of the following is the most appropriate first action?

**A. Patient rebreathe into a paper bag

B. Conduct an amobarbital interview

C. Blood alcohol concentration

D. CT Brain scan

Which of the following atypical antipsychotic agents is associated with the most weight gain?

A. Ziprasidone

B. Aripiprazole

**C. Olanzapine

D. Quetiapine

Which of the following is the best treatment for a generalized anxiety disorder?

A. Buspirone

B. Bupropion

C. Alprazolam

**D. Escitalopram

For which of the following childhood psychiatric disorders, clozapine is the most appropriate medication?

A. Bipolar illness

**B. Schizophrenia

C. Substance abuse

D. Major depression

Which of the following antidepressants has a high efficacy in childhood and adolescent depression?

A. Lithium

B. Clozapine

**C. Fluoxetine

D. Imipramine

A 30-year-old man presents to the clinic with 3-month history of aliens taking to him and putting thoughts into his mind?

Which of the following is the most appropriate management? ✓

A. Behavioural therapy

**B. Anti-psychotic therapy

C. Bereavement counselling

D. Anti-depressive medications

A 55-year-old man presents to the clinic with history of difficulty maintaining erections and impotence that occurs during stressful periods of life. He is currently under stress at work. On examination, he has normal physical findings.

Which of the following is the first step in management?

A. Prescribe sildenafil

B. Refer to an endocrinologist

C. Refer to a urologist for evaluation

**D. Encourage use of relaxation strategies

A 38-year-old woman presents with a 3-month history of recurrent intense fear accompanied by irritability, excessive worry, palpitations, and chest tightness. She is avoiding social gathering fearing of having same symptoms. Physical examination findings are normal.

Which of the following medications is the most appropriate first line of treatment?

**A. Selective serotonin reuptake inhibitor

B. Monoamine oxidase inhibitor

C. Tricyclic antidepressants

D. Benzodiazepine

A 5-year-old boy is brought to the clinic by his mother with history of impaired language development, impaired intelligence, compulsive repetitive behaviour, and a preoccupation with inanimate objects.

Which of the following is the most likely diagnosis?

**A. Autism

B. Dyslexia

C. Conductive hearing loss

D. Manic depressive disorder

A mother of a 3 month-old baby presents to the clinic and tells the physician that she is "going crazy." She states that since the baby has been born, she has continuously visualized a snake crawling into the baby's crib at night. She states that she knows it is not likely to happen but cannot get the thought out of her mind. She checks the baby's crib up to 50 times per night to ensure that there is no snake.

Which of the following is the most likely diagnosis?

A. Delusions

**B. Obsessions

C. Hallucinations

D. Postpartum psychosis

A 50-year-old woman presents to the clinic with history of anxiety. 2 months ago, during a meeting at her job, she became very anxious, sweaty, and short of breath. She had to leave the meeting in order to calm down. Since then, she has avoided meeting rooms out of fear that she will have a recurrence of her symptoms.

Which of the following is the most likely diagnosis?

**A. Panic disorder

B. Specific anxiety disorder ✓

C. Generalized anxiety disorder

D. Post-traumatic stress disorder

A 24-year-old man presents to the clinic with history of gradual fear of automobiles. He has always been anxious of cars, but now can no longer look at them without experiencing shortness of breath, sweating, and fear.

Which of the following disorders is the most likely diagnosis?

A. Panic

**B. Specific anxiety ✓

C. Generalized anxiety

D. Post-traumatic stress

A 21-year-old woman presents to the clinic with history of red dry skin on her hands. She washes her hands up to 70 times per day because she always feels dirty. Washing her hands relieves her anxiety, but as she touches anything, she wants to wash again.

Which of the following disorders is the most likely diagnosis?

**A. Obsessive compulsive

B. Dysmorphic

C. Phobic

D. Panic

A 30-year-old man with a history of drug abuse presents to the clinic weekly with a variety of health complaints, which vary each time, and are greatly exaggerated. When he is unaware of being observed he appears asymptomatic.

Which of the following is the most likely diagnosis?

A. Depression

**B. Malingering ✓

C. Somatic delusion

D. Conversion reaction

A 19-year-old woman presents to the clinic for a routine physical check-up. On examination, she has fine hair all over the body. She feels fat and subsequently diets.

BMI 16.8 kg/m2

Which of the following is the most likely diagnosis?

A. Bulimia

**B. Anorexia nervosa ✓

C. Body dysmorphic disorder

D. Generalized anxiety disorder

A 48-year-old woman calls the clinic expressing fear of leaving the house, and has been inside for 2 months. She becomes anxious at the thought of walking out the front door and is now unable to enter the room containing the front door.

Which of the following is the most likely diagnosis?

A. Depression

B. Malingering

**C. Agoraphobia ✓

D. Substance abuse

A 27-year-old man presents to the clinic with history of sweating, palpitations, nausea, and a "panicky feeling" when required to deliver a speech at work. He has no other difficulties at work.

Which of the following is the most likely diagnosis?

A. Malingering

B. Agoraphobia

**C. Performance anxiety

D. Generalized anxiety disorder

A 56-year-old woman presents to the clinic with history of constant counting of floor tiles, cars, items on a dinner plate, and words in a conversation. She is upset by the counting but becomes anxious and agitated when she tries to stop herself from counting.

Which of the following is the most likely diagnosis?

A. Delusion

B. Obsession

**C. Compulsion

D. Hallucination

A 61-year-old man presents with history of constantly thinks about aliens landing in his backyard, especially when away from home. Despite knowing that aliens do not exist, he feels overwhelmed with the idea that they have landed. He fears that he is "going insane".

Which of the following is the most likely diagnosis?

A. Delusion

**B. Obsession

C. Compulsion

D. Hallucination

A 38-year-old man presents to the clinic with history of hearing voices coming from the toaster and refrigerator, warning that all the food is poisoned.

Which of the following is the most likely diagnosis?

A. Delusional thinking

B. Visual hallucination

C. Disorganized thinking

**D. Auditory hallucination

A 27-year-old man presents to the clinic for routine check-up. On examination, he kept looking to the right frequently. When questioned, he said, "My mother is there, but no one can see her except me". He claims that she comes and goes, even though the family indicates she died when the patient was a child.

Which of the following is the most likely diagnosis?

A. Delusion

**B. Visual hallucination

C. Auditory hallucination

D. Episode of disorganized thinking

A 17-year-old man with history of intravenous drug abuse presents to the clinic for clinical evaluation.

Which of the following is the most appropriate next step in investigation?

A. Methicillin resistant Staphylococcus aureus

**B. Human immunodeficiency virus

C. Streptococcus viridans

D. Viral hepatitis B

A 17-year-old high school athlete presents to the clinic for an annual physical check-up. On examination, he has gained 20 Kg in the past 4 months and has very well developed musculature of the upper body, acne over the face and back and foul breath.

Heart rate 94 /min
Temperature 37.6° C
Blood pressure 138/89 mmHg
Respiratory rate 14 /min

Which of the following the patient should be screened for?

A. Depression

B. Cocaine use

C. Thyroid tumor

**D. Anabolic steroid use

A 52-year-old man presents to the clinic for a routine physical check-up. He has a history of pulling out hair when under stress. On examination, he has diffuse hair thinning along with the absence of eyelashes.

Which of the following is the most likely diagnosis?

A. Post-traumatic stress disorder

B. Cicatricial syndrome

**C. Trichotillomania

D. Alopecia areata

A 15-year-old girl presents to the clinic with history of tetany, swollen glands, and eroded dental enamel (see lab result).

Electrolytes test Result Normal Value
Potassium 2.8 3.5-5.1 mmol/L

Which of the following is the most likely diagnosis?

**A. Bulimia nervosa

B. Substance abuse

C. Anorexia nervosa

D. Alcohol withdrawal

A 40-year-old drug addict man presents to the Emergency Department with 1-hour history of unconsciousness. On examination, he has pinpoint pupils and a respiratory rate of 8/minute.

Which of the following is the most appropriate treatment?

A. Atropine

**B. Naloxone

C. Furosemide

D. N-acetylcystein

A 53-year-old woman with history of depression presents to the Emergency Department with history of nausea, vomiting, epigastric pain, tinnitus, and shortness of breath 6 hours after consuming 50 tablets of aspirin (see lab result).

Test Result Normal Value
Plasma salicylate concentration 54 15-30 mg/dL

Which of the following is the most appropriate initial management?

A. Hemodialysis

B. Gastric lavage

C. Activated charcoal

**D. Urine alkalinization

A 34-year-old healthy man presents to the clinic with a 2-year history of worsening sad mood, poor appetite, insomnia, fatigue, low self-esteem, and feeling of hopelessness.

Which of the following is the most likely diagnosis?

A. Organic mood disorder

B. Depressive disorder

C. Minor depression

**D. Dysthymia

oR Persistent D. order

A 9-year-old girl is brought to the clinic by her mother with a bald patch on her scalp. Her mother noted that she plucks her hair while studying and under stress.

Which of the following is the most appropriate treatment?

A. Olanzapine

B. Bupropion

**C. Fluoxetine

D. Lithium

A 20-year-old man presents to the clinic with poor personal hygiene, echolalia, echopraxia, muttering to self, sitting in an odd posture for hours, and insomnia for the past 2 months. On examination, his orientation and memory are normal.

Which of the following is the most appropriate treatment?

A. Oxcarbazepine

**B. Amisulpride ✓

C. Venlafaxine

D. Lithium

A 45-year-old woman presents to the Primary Health Care Clinic with symptoms of anxiety due to difficulties in her relationship with her co-workers. Her examination was normal and the doctor has decided that there is no need for any investigation.

Which of the following would be the most effective approach for counselling?

A. Instructing how to deal with others

**B. Empathy during consultation

C. Asking humorous questions

D. Standing up for her rights

A 55-year-old smoker presents to the Primary Health Care Clinic for the result of the biopsy of a lesion in his right lung. When informed that, he has a cancer in his right lung, he asked with anxiety, "is it a mistake?".

Which of the following is the most appropriate description for the patient's reaction?

A. Anger

**B. Denial

C. Bargaining

D. Depression

A 30-year-old man presents to the clinic with 10-month history of restlessness, difficulty concentrating, and disturbance in his sleep pattern. He is diagnosed with generalized anxiety disorder.

Which of the following is the most appropriate treatment?

**A. Alprazolam

B. Bupropion

C. Haloperidol

D. Naltrexone

An 18-year-old man presents to the Emergency Department with 1-week history of euphoria, increased blood pressure, tachycardia, nausea, weight loss, psychomotor agitation, chills, sweating and visual hallucinations.

Which of the following is the most likely diagnosis?

**A. Amphetamine intoxication

B. Cannabis intoxication

✓

C. Acute schizophrenia

D. Cocaine withdrawal

A 3-year-old child is brought to the clinic for his yearly physical examination. His history revealed various behavioural issues, including poor interaction with peers and family, delayed language development, repetitive movements and difficulty of accepting change. The child stiffens physically when touched, does not respond to the examiner and does not make eye contact.

Which of the following is the most likely diagnosis?

A. Attention deficit hyperactivity disorder

B. Asperger's syndrome

**C. Autistic disorder

D. Down syndrome

A 23-year-old woman is admitted to the Psychiatric Unit after causing superficially lacerations to her wrists. The reason is that she felt that her therapist has abandoned her. She has depressed mood that varies by the hour. On admission, she claimed that she has heard a voice speaking to her although she currently denies it. She caused a disagreement between the psychiatric resident and the nursing staff, who have conflicting views of her behaviour in the unit.

Which of the following personality disorders is the most likely diagnosis?

A. Antisocial

**B. Borderline

C. Obsessive

D. Schizoid

A 40-year-old man presents to the Emergency Department with irritability, suspiciousness, over activity and poor hygiene. Emergency Department doctors regarded his behaviour as abnormal and called for a psychiatrist.

Which of the following is the most likely diagnosis?

A. Acute confusional state

B. Alzheimer's Disease

C. Schizophrenia

**D. Psychoses

A 58-year-old man presents to the clinic with a history of a disturbed recent memory as a cardinal feature of his disturbed state of mind along with behavioural changes.

Which of the following is the most likely diagnosis?

A. Multiple Sclerosis

**B. Alzheimer's Disease

C. Huntington's chorea

D. Multi infarct dementia

A 30-year-old man presents to the clinic complaining of reduced energy, lack of enjoyment, reduced sleep, reduced appetite, suicidal ideas and lack of self-confidence. Examination and lab results are normal.

Which of the following is the most likely diagnosis?

A. Anxiety disorders

**B. Depressive disorders

C. Drug induced psychoses

D. Dissociative conversion disorder

A 28-year-old was brought to the Emergency Department complaining that his neighbours are trying to harm him and are plotting to kill him. On questioning, he was very sure about this and said that he is still hearing their voices talking with each other, though none of them were present.

Which of the following is the most likely diagnosis?

A. Cognitive and perceptive disturbance

B. Depersonalization and derealization

C. Obsessive compulsive disorder

**D. Hallucinations and delusions

A 26-year-old woman presents to the Psychiatric Outpatient Clinic with history of psychomotor excitation and irritability. She has grandiose delusions and auditory hallucinations. On a mental state examination, she exhibited a lack of insight and flight of ideas.

Which of the following disorders is the most likely diagnosis?

A. Neurosis

**B. Psychoses

C. Personality

D. Dissociative conversion

A 32-year-old man presents to the clinic with 2-year history of getting orgasm too readily during the sexual act. He complains that during the sexual intercourse he is having palpitations and worrying thoughts in his mind all the time. On examination, he has normal findings.

Which of the following is the most likely diagnosis?

**A. Anxiety disorder

B. Depressive disorder

C. Bipolar affective disorder

D. Primary erectile dysfunction

A 16-year-old girl presents for a follow-up visit complaining that she is unable to eat because of an intense desire to reduce her weight. Some time she develops an impulse to eat excessively and she then follows the impulse. She then intermittently self-induces vomiting. On examination, she looked weak.

Which of the following is the most likely diagnosis?

A. Bulimia nervosa

**B. Anorexia nervosa

C. Personality disorder

D. Obsessive compulsive disorder

A 20-year-old student presents to the Psychiatric Outpatient Clinic complaining that she feels embarrassed, dizzy, and tremulous whenever she tries to answer verbally in the classroom.

Which of the following is the best treatment?

✓

A. Small doses of alprazolam

**B. Behavioural therapy

C. Relaxation training

D. Bupropion

A 21-year-old man with depression presents for follow-up visit. During the consultation, the psychiatrist asked, "Do you think that you are mentally ill?"

Which of the following findings is the psychiatrist wants to assess?

✓

**A. Insight i

B. Judgment

C. Compliance

D. Guilt feeling

A 23-year-old college student was brought to the Psychiatric Outpatient Clinic with a 3-month history of persecutory delusions, hearing voices commenting on his actions, and disorganized behaviour without disturbance of mood, then returning to normal with no medication.

Which of the following is the most likely diagnosis? duratn

**A. Schizophreniform disorder

B. Brief psychotic disorder

C. Delusional disorder

D. schizophrenia

A 34-year-old man presents to the clinic for routine visit. During the consultation, he speaks loudly and rapidly without completely expressing one thought before beginning another. Speech patterns are rhyming and the patient is easily distracted by cues in the immediate surroundings.

Which of the following is the most likely description for these findings?

**A. Flight of ideas

B. Perseveration ✓

C. Thought insertion

D. Loosening of associations

A 22-year-old man presents to the clinic with history of approaching strangers and asking them the same inappropriate question without stopping when instructed to do so. The patient seemed unaware of the fact that this was an inappropriate behaviour.

Which of the following is the most likely description for this behaviour?

A. Flight of ideas

**B. Perseveration ✓

C. Thought insertion

D. Loosening of associations

A mother brings her 2-week-old infant to the Well-Baby Clinic for a check-up. During the visit, the physician found the child to be normal but the mother gives inappropriate answers to the questions. She appeared disoriented in time and date. She states that the child is deformed and unlikely to live long.

Which of the following is the most likely diagnosis?

A. Postnatal non-bonding

**B. Postpartum psychosis

C. Neurosis

D. Fatigue

A 34-year-old woman presents to the clinic for postpartum care. She has experienced tearfulness and irritability during the 1 week following the delivery of her child. This episode resolved spontaneously and her mood has been normal since then.

Which of the following is the most likely diagnosis?

**A. Maternity blues

B. Postnatal depression

C. Postpartum psychosis

D. Postnatal non-bonding

Which of the following conditions is most often associated with manic behaviour?

A. Paranoid schizophrenia

**B. Bipolar affective disorder

C. Grandiose mood disorder

D. Generalized anxiety disorder

A 21-year-old woman presents to the clinic with history of changes in the voice that she hears. Until now, it had been merely making critical comments about everything she did. For the past 2 weeks, however, she thinks the voices seemed to have been able to "suck thoughts out" of her and send them to others.

Which of the following is the most likely diagnosis?

A. Mania

B. Agoraphobia

**C. Schizophrenia

D. Mood disorder

A 26-year-old man presents to the clinic with history of unusual behaviour. He keeps a blanket over the television believing that the government uses the actors to spy through the TV. He believes that the instructions to cover the TV came from God who spoke through the light bulb.

Which of the following is the most likely diagnosis?

**A. Schizophrenia

B. Agoraphobia

C. Dementia

D. Mania

A 25-year-old healthy man complains of episodes of chest tightness, palpitations, dizziness and breathlessness. These episodes resolved after about 5 minutes. He remains normal between episodes and the interval may extend for several days before a new episode occurs. He has had constant anxiety about having another attack and feels sad about the situation. The patient cannot identify a triggering mechanism.

Which of the following is the most likely diagnosis?

A. Generalized anxiety disorder

B. Major depressive disorder

C. Phobic reaction

**D. Panic disorder

A 30-year-old man gives a history of pancreatic carcinoma and reports having lost all his prescriptions. He says that despite having recently completed chemotherapy he has developed new symptoms and is afraid of a recurrence. There is no medical records for him in the hospitals. When confronted with this information, the patient ran away from the clinic.

Which of the following is the most likely diagnosis?

A. Conversion disorder

**B. Factitious disorder

C. Hypochondriasis

D. Malingering

A 40-year-old woman presents to the clinic with 2-month history of a sleep disturbance, loss of interest, low energy, poor memory, and suicidal ideation. On examination, she looks weak and inactive. Laboratory investigations are normal.

Which of the following is the most likely diagnosis?

A. Dysthymia

B. Bipolar disorder

**C. Major depression

D. Minor depression

A 19-year-old healthy man is brought to the clinic for evaluation of progressive erratic behaviour. Over the past 4 months, he has believed that people on television are reading his thoughts. He expressed the presence of supernatural powers and that he has begun to act out in response to these ideations. He has not caused injuries, but the trends are becoming more violent. On examination, he is normal.

Which of the following is the most likely diagnosis?

**A. Schizophrenia

B. Conversion disorder

C. Rapid cycling depression

D. Manic phase of bipolar disorder

Which of the following is the most appropriate management plan for major depression?

**A. Select any drug to start as all have equal efficacy

B. Initiate therapy with one medication for 2 weeks

C. Stop medication with symptomatic improvement

D. Change medications if the patient doesn't respond

Which of the following systems is stimulated by stressful situation?

A. Urinary

B. Respiratory

C. Sympathetic

**D. ~~Parasympathetic~~

Stress leads to an increase in cortisol and catecholamine secretion that can alter the levels of lymphocyte production that fight disease.

Which of the following is the most likely explanation for these effect?

A. Interpretation of the sitting

**B. Psychoneuroimmunology

C. Vaccination effect

D. Personal effects

Which of the following is the main difference between delirium and dementia?

**A. Disturbance of consciousness

B. Multiple cognitive deficits

C. Memory impairment

D. Aphasia

A 72-year-old man experiences inability to sustain attention, disorganized thinking, hallucinations, and disorientation commencing 12 hours after an aortic femoral popliteal bypass. The symptoms fluctuated during the next 2 days.

Which of the following is the most likely diagnosis?

A. Multi-infract dementia

B. Depression

C. Delirium

**D. Mania

A 70-year-old man with Alzheimer's dementia becomes agitated and aggressive after developing hallucinations and delusions. A complete evaluation does not reveal any environmental, medical, or psychiatric cause and behavioural interventions failed to improve the agitation.

Which of the following is the most appropriate next step in management?

A. Thioridazine

B. Haloperidol

**C. Olanzapine

D. Buspirone

A 78-year-old man is brought to the Outpatient Clinic with a 2-year history of slow and progressive deterioration in his memory. He is able to perform some activities of daily living, including dressing and bathing as well as cooking. He has personality changes, once a kind and caring parent he now displays periods of both agitation and aggression. Neurologic and musculoskeletal examination cannot be carried out.

Which of the following is the best management?

**A. Cost-effective laboratory investigation

B. Prescribe Risperidone for the patient

C. Admission to a chronic care facility

D. Refer to a geriatrician

A 30-year-old man presents to the Outpatient Clinic with manifestations of opioid withdrawal. After full investigations, he was diagnosed as a heroin addict. As part of the rehabilitation process, he was prescribed a substitute for the addictive drug.

Which of the following drugs should be prescribed?

A. Naloxone

B. Papaverine

**C. Methadone

D. Dextromethorphane

Which of the following is described as "False belief not in accordance with a person's intelligence or culture"?

A. Ellusion

**B. Delusion

C. Hallucination

D. Somatisation

A 65-year-old man with congestive heart failure and osteoarthritis moved into a nursing home 3 months ago. During the past 4 weeks, the patient has lost 3.6 kg, lost interest in all social activities, and has been crying almost every day. The mood is worse in the morning. At times, especially when the mood is impaired, the patient's short-term memory appears to be lost.

Which of the following is the most likely diagnosis?

A. Multi-infarct dementia

B. Alzheimer's disease

C. Hypothyroidism

**D. Depression

A 19-year-old girl presents with a 12 kg weight loss over the last 6 months. She feels fat with an intense fear of gaining weight. Over the last 4 months, the patient has had amenorrhea. On examination, she has lanugo hair distribution.

Height 167 cm
weight 42 kg

Which of the following is the most likely diagnosis?

A. Bulimia

**B. Anorexia nervosa

C. Masked depression

D. Generalized anxiety disorder

A 29-year-old woman presents to the clinic with recurrent attacks of palpitations, chest pain, difficulty in breathing, and a fear of dying. She also trembles, experiences numbness and tingling sensations in the hands and feet. The past medical history is not significant. On examination, she looks tense, and the hands are cold with fine tremors.

Heart rate 108 /min, regular
Temperature 37.2° C
Blood pressure 120/82 mmHg
Respiratory rate 14 /min

Which of the following is the most likely diagnosis?

A. Pheochromocytoma

B. Hyperthyroidism

**C. Panic disorder

D. Agoraphobia

A 29-year-old man presents with a 2-year history of intense fear before giving classes as a teacher in a secondary school. He claims that it is only a matter of time before a major teaching mistake is made.

Which of the following phobias is the most likely diagnosis?

**A. Social

B. Mixed

C. Specific

D. Agoraphobia

A 55-year-old man presents to the clinic with 2 months history of anxiety, irritability, impotence, difficulty in sleeping, and a weight loss of 10 kg. There is no evidence of marital disharmony or any external causes for the patient's anxiety. The physical examination was normal.

Which of the following is the most likely diagnosis?

A. Social phobia

**B. Major depression

C. Secondary depression

D. Generalized anxiety disorder

Which of the following is the most likely a characteristic of a major depressive illness?

A. Hypomania

B. Late morning awakening

C. Hallucination and flight of ideas

**D. Decreased eye contact in conversation

A 52-year-old woman presents with a 5-day history of insomnia and crying because of the death of a sibling. The patient has not slept for the last 2 days.

Which of the following is the most appropriate short course of therapy?

A. Fluoxetine

B. Imipramine

**C. Lorazepam

D. Chlorpromazine

Which of the following factors indicates a poor prognosis for schizophrenia?

A. Acute onset of psychosis

**B. Onset during adolescence

C. Family history of schizophrenia

D. Anxiety during psychotic episodes

A 72-year-old man who lost his spouse 2 months ago after a prolonged illness, presents with a sad mood, decreased appetite, and sleep disturbance.

Which of the following is the most likely diagnosis?

A. Dysthymia

**B. Bereavement

C. Major depression

D. Minor depression

Which of the following drug mechanism of action is most appropriate to treat obsessional behavioural disorder?

A. Blocks serotonin production

**B. Increases the availability of serotonin

C. Increases the production of serotonin

D. Decreases the availability of serotonin

Which of the following medications causes insomnia, anxiety and restlessness?

A. Tricyclic antidepressant

B. Tetracyclic Antidepressant

C. Monoamine oxidase inhibitor

**D. Selective serotonin-reuptake inhibitor

A 76-year-old man newly diagnosed with depression started on 30 mg amitriptyline each night. Shortly after beginning of treatment, he complains of dizziness every morning.

Which of the following is the most appropriate next step in management?

A. Change to a selective serotonin reuptake inhibitor

B. Advise to take the medication with food

C. Advice to take the medication in the morning

**D. Change amitriptyline dose to 10 mg 3 times a day

Which of the following is a potential side effect of amitriptyline?

A. Dystonia

**B. Weight gain

C. Hypersalivation

D. Hyperpigmentation

A 12-year-old obese boy presents to the Primary Care Clinic with history of being teased by children at school and, as a result, has considered "taking a lot of pills to just go to sleep and not wake up."

Which of the following is the most appropriate action?

A. Weight loss advice

B. Reassuring the patient

**C. Immediate psychiatry referral

D. Prescription of a fast acting antidepressant

A 76-year-old man presents to the Psychiatry Clinic for follow-up accompanied by his son. He has progressive memory loss, difficulty in finding words, wandering, and agitation, as well as urinary and fecal incontinence for the last 3 years. On examination, he was conscious but not oriented in time and place; his short memory was severely impaired with an intact long memory (see report).

Brain CT scan:
Atrophied hippocampal and temporal lobes.

Which of the following chromosomes harbors the mutated gene is responsible for this presentation?

A. 13

B. 15

**C. 21

D. X

Which of the following clinical signs caused by a lesion in Wernicke's area?

A. Can understand but unable to say words easily

**B. Cannot understand spoken or written words

C. Loss of ability to recognize faces

D. Loss of short term memory

A 55-year-old woman presents to the Primary Health Care Centre complaining of loss of interest and pleasure in daily activities for 3 weeks. She also complains that she has difficulty in concentrating and sleeping. Further, she has also expressed that she feels that she is worthless in the world and therefore wants to end her life.

Which of the following biochemical substance deficiency is the most likely cause?

A. Aspartate

**B. Serotonin

C. Glutamate

D. Acetylcholine

A 55-year-old woman presents to the Primary Health Care Centre complaining of loss of interest and pleasure in daily activities for 3 weeks. She also complains that she has difficulty in concentrating and sleeping. Further, she has also expressed that she feels that she is worthless in the world and therefore wants to end her life.

Which of the following reuptake inhibitors is the best treatment?

A. DOPA

B. GABA

**C. Serotonin

D. Acetylcholine

Which of the following drugs used in Alzheimer's disease is most likely to cause hepatotoxicity?

**A. Tacrine

B. Donepezil

C. Rivastigmine

D. Galantamine

Which of the following antipschotic medications is most likely cause weight gain?

A. Clozapine

**B. Olanzapine

C. Risperidone

D. Ziprasidone

A 35-year-old depressed housewife was started with antidepressants. After 2 weeks of taking the medication, the patient started complaining of constipation.

Which of the following groups of antidepressants is the most likely cause?

**A. Tricyclic anti-depressants

B. Mono amine oxidase inhibitors

C. Selective serotonin reuptake inhibitors

D. Selective nor-adrenaline and serotonin inhibitors

Which of the following conditions is the most likely cause of dementia?

A. Spinocerebellar ataxia

B. Vitamin B12 deficiency

**C. Idiopathic parkinsonism

D. Amyotrophic lateral sclerosis

A 15-year-old girl who had a serious disagreement with her friend. She did not want to meet her friend or talk to her anymore. If the girl saw her friend coming towards her or sitting in a room, she would move away and not go in that direction.

Which of the following defence mechanisms is the most likely explanation for this behaviour?

A. Denial

B. Acting out

**C. Avoidance

D. Repression

A 65-year-old man with depression presents to the clinic for follow-up visit. The physician did his consultation using a bio-psycho social model of treatment.

Which of the following is a characteristic of this treatment model?

A. Evidence based medicine

B. Traditional allopathy

C. Geriatric medicine

**D. Holistic medicine

A 36-year-old diabetic woman presents to the clinic for follow-up visit, and after an initial assessment, the physician wished to perform a physical examination. He first asked her permission, which was granted.

Which of the following ethical measures was the physician adopting?

**A. Obtain informed consent

B. Respect for the patient

C. Fulfil his responsibility

D. Show his efficiency

A 40-year-old diabetic man was treated appropriately with small doses of insulin. On next follow-up visit, he bought a very expensive watch as a gesture of gratitude to his physician.

Which of the following is the most appropriate response?

A. Accept and advise not to repeat

B. Refuse and give a warning

**C. Politely refuse the gift

D. Accept from the rich

A 36-year-old newly diagnosed hypertensive man presents for follow-up visit. After a thorough assessment, the physician discussed with him his diagnosis, the etiology of his illness, the probable side effects of the prescribed medicine, and the prognosis of his illness and finally the restrictions the patient might experience due to the illness.

Which of the following professional skills is the physician used?

A. Developing rapport

B. Improving communication

**C. Providing informational care

D. Developing bonding with the patient

Which of the following is the most useful communication technique when taking a patient history?

A. Humour

B. Silent listening

C. Specific questions

**D. Open-ended questions

Which of the following is an example of the open-ended questions in consultation?

**A. "Tell me about the pain."

B. "Tell me about the pain in your chest."

C. "Point to the area of pain in your chest."

D. "Have you seen a doctor in the past 6 months?"

A 6-year-old boy is brought to the clinic by his mother. She noticed that the child has been eating clay and paper for the last 4 months.

Which of the following is the most appropriate initial treatment?

A. Fluoxetine

B. Imipramine

C. Clonazepam

**D. Behavioural therapy

A 34-year-old woman presents to the clinic with a 6-month history of extreme fear of going to the park, the zoo and sporting events. This has worsened to the point where she has stopped going out of the house.

Which of the following is the most likely diagnosis?

A. Conversion disorder

B. Schizophrenia

C. Social phobia

**D. Agoraphobia

A 45-year-old man presents in an anxious, tearful state. He complains of chronic, upper abdominal pain and is certain that he has stomach cancer but no one believes him. He has seen 6 different physicians in the past year and has had a GI series and barium enema performed an ultrasound of the abdomen twice and a CT scan. The patient was thinking of next going to a Herbal Clinic.

Which of the following is the most likely diagnosis?

A. Somatoform pain disorder

B. Somatization disorder

C. Conversion disorder

**D. Hypochondriasis

A 43-year-old woman delivered a full-term infant. On examination, he has an epicanthic folds, delayed milestones, flat facial profile, simian palmar creases and an atrial septal defect.

Which of the following is the most likely diagnosis?

A. Trisomy 12

**B. Trisomy 21

C. Di-George syndrome

D. Robertsonian translocation

A 16-year-old girl is brought by her father to the Emergency Department with complaints of tachypnoea, light-headedness, paraesthesia and palpitations. Her father gives the history that she has recently failed her math test

Which of the following is the most likely diagnosis?

A. Oppositional defiant disorder

**B. Hyperventilation syndrome

C. Munchausen syndrome

D. Anxiety disorder

A 27-year-old man presents to the clinic with a 1-month history of low mood and lack of sleep. It was associated with weight gain, isolation and concentration impairment. His wife mentioned that he bought a very expensive car and thinking that he is wealthy man 3 months ago. He is very talkative and difficult to interrupt. Which of the following medications is the most effective for long-term management?

**A. Lithium ✓

B. Bupropion

C. Olanzapine

D. Mirtazapine

Which of the following is the diagnostic criteria for Attention deficit hyperactivity disorder in children, according to the International Classification of Diseases-10?

A. 1 inattentive, 3 hyperactive and 1 impulsive symptoms

B. 1 inattentive, 3 hyperactive and 3 impulsive symptoms

C. 3 inattentive, 3 hyperactive and 1 impulsive symptoms

**D. 6 inattentive, 3 hyperactive and 1 impulsive symptoms ✓

A 23-year-old woman with frequent panic attacks, presents to clinic complains that during her last attack 3 days ago she felt that she was disconnected from the world, as if the environment is strange.

Which of the following would best describe her feelings?

A. Illusion

**B. Derealisation D ✓

C. Dull perception

D. Depersonalization

A 30-year-old man has a personality disorder, which is characterized by being aggressive and violent.

Which of the following is the most likely associated with violence?

**A. Low levels of serotonin

B. High levels of serotonin

C. Low levels of endorphins

D. High levels of endorphins

Which of the following is associated with dyslexia?

A. Abnormal gait

B. Brainstem defects

**C. Verbal language difficulties

D. Defect in visual or hearing acuity

Which of the following is the most likely clinical presentation of delusional patients?

A. Disturbance in perception

B. Rare in in manic disorders

C. Found only in schizophrenia

**D. Disturbance of thought content

A 7-year-old boy is brought by his mother because he was unable to sit in school without interrupting the class, wandering around the classroom or poking his neighbours. On examination, he has normal growth parameters.

Which of the following is the best management?

A. Bupropion

B. Paroxetine

C. Guanfacine

**D. Dextroamphetamine

A 30-year-old woman presents with a complaint of lower back pain for 1 year. During the last 2 years, she had presented with recurrent abdominal pain, bloating, headache and migratory joint pain. Her menstrual periods are irregular and heavy. She was terminated twice from the job due to frequent absence from the work. She is upset that proper diagnosis or treatment was not given to her. She had multiple laboratory tests done during the last 2 years and all were normal. The physical examination is unremarkable.

Which of the following is the most likely diagnosis?

A. Malingering

B. Hypochondriasis

C. Factitious disorder

**D. Somatization disorder

A 23-year-old man with bronchial asthma presents with a 5-year history of severe anxiety in social gatherings. He often has sweating and palpitation when he leads discussions at work. He prefers to sit alone at home. He notices that his presenting complaint is provoked by salbutamol. His physical examination is unremarkable.

Which of the following is the most appropriate therapy?

**A. Sertraline

B. Bupropion

C. Alprazolam

D. Propranolol

A 28-year-old women with bipolar disorder, treated for 6 months, presents for follow-up visit. On examination, she has 8 kg weight gain, generalized weakness and hair loss.

Which of the following is the most likely cause?

A. Hypothalamic disorder

B. Hypothyroidism

C. Verapamil

**D. Lithium

A 56-year-old man with schizophrenia is started on neuroleptic medications to treat his psychotic symptoms.

Which of the following side effects is the patient at greatest risk?

A. Seizures

**B. Akathisia

C. Hyperthermia

D. Myocardial infarction

Which of the following is the most likely benefit of using antipsychotic therapy in schizophrenic patients?

A. Improve apathy

**B. Reduce delusions

C. Improve thinking ability

D. Increase social interaction

A 23-year-old man is brought to the psychiatrist clinic because for the first time he started to hear some voices talking to him with unknown sources. On examination, he was apathetic and emotionally withdrawn.

Which of the following is the best management?

A. Olanzapine

B. Fluoxetine

C. Cognitive behavioural therapy

**D. Antipsychotic and cognitive behavioural therapy

A 45-year-old man with recurrent episodes of schizophrenia is on maintenance therapy to maintain suppression of symptoms, prevent relapse, improve quality of life, and support engagement in psychosocial therapy.

Which of the following is the best outcome following the maintenance therapy?

A. Complete resolution

B. 5% will achieve remission

C. 70% will have a satisfactory quality of life

**D. 33% obtain long-lasting symptom reduction

Which of the following selective serotonin reuptake inhibitors is the most toxic in overdose?

A. Sertraline

**B. Citalopram

C. Paroxetine

D. Fluoxetine

A 23-year-old woman is newly diagnosed with paranoid schizophrenia based on presence of both negative and positive symptoms of schizophrenia.

Which of the following is the most effective medication?

**A. Clozapine

B. Trazodone

C. Fluphenazine

D. Chlorpromazine

Which of the following is the lowest fatal dose of tricyclic antidepressant?

A. 500 mg

B. 1 gm

C. 2 gm

**D. 3 gm

A 32-year-old man brought to Emergency Department after he was involved in a road traffic accident. He was diagnosed with a massive intra-abdominal bleeding due to a severe splenic injury. He underwent exploratory laparotomy and splenectomy.

Which of the following is most likely to be low in the early postoperative period?

**A. Insulin

B. Glucagon

C. Prolactin

D. Vasopressin

A 27-year-old man admitted to the Intensive Care Unit 4 weeks ago with severe infected necrotizing pancreatitis. He underwent several interventions for sepsis control and drainage of collections. He is on mechanical ventilation and inotropes.

Which of the following metabolic responses is most expected?

A. Reduced insulin resistance

B. Reduced gluconeogenesis

**C. Increased lipolysis

D. Hypoglycaemia

A 38-year-old man who is known to have Crohn's disease, presented to the Emergency Department with a history of 8-12 episodes of diarrhoea per day over the last 5 days. On examination, he was dehydrated; abdomen was distended with generalized muscles weakness (see report).

ECG:
Flattened T-waves.

Which of the following is the most likely electrolyte abnormality?

A. Hypomagnesaemia

B. Hyponatremia

C. Hypocalcaemia

**D. Hypokalaemia

A 33-year-old man is known to have renal impairment, underwent appendectomy for acute appendicitis. On the first day after surgery, he was complaining of palpitation (see lab result and report).

Test Result Normal Value
Potassium 6.5 3.5-5.1 mmol/L

ECG:
Tented T-waves.

Which of the following is the most appropriate initial step in management?

A. Intravenous infusion of dextrose with insulin

B. Intravenous infusion of sodium bicarbonate

**C. Intravenous calcium gluconate

D. Immediate haemodialysis

A 55-year-old woman known to have chronic duodenal ulcer, presented to the Emergency

Department with history of frequent vomiting for 2 weeks. Examination revealed dehydration, with distended upper abdomen and normal bowel sounds (see report).

Upper Gastrointestinal Endoscopy:
Severely narrowed pylorus due to chronic peptic ulcer disease.

Which of the following is the most expected?

A. High urinary potassium

B. Respiratory alkalosis

C. Metabolic acidosis

**D. Hypokalaemia

A 36-year-old man presented to the Emergency Department with a history of right iliac fossa pain for 9 days associated with fever and vomiting. Physical examination revealed tender abdominal mass in the right iliac fossa with sluggish bowel sounds (see report).

Temperature 39 °C

CT scan:
Appendicular abscess, 15 x 18 cm in size, in the right iliac fossa.

Which of the following is a characteristic pathophysiology?

**A. Redistribution of blood flow

B. Peripheral vasoconstriction

C. Decreased cardiac index

D. Bradycardia

A 38-year-old man has suffered from a severe hypovolemic shock due to traumatic splenic injury, and underwent splenectomy. He received 8 units of packed red blood cells during resuscitation and surgery. He was admitted in the intensive care unit. On the 3rd post-operative day, he was febrile (see report).

Gram stain of blood:
Positive for gram negative bacilli.

Which of the following is the most likely source of the bacteraemia?

A. Contaminated blood

B. Urinary tract infection

C. Respiratory tract infection

**D. Translocation from the bowel

A 41-year-old man underwent blood transfusion for postoperative bleeding. He developed pain at the site of the infusion with fever and chest tightness after few minutes of starting the transfusion.

Temperature 38 °C

Which of the following is the most likely diagnosis?

A. Febrile non-haemolytic reaction

B. Bacterial blood contamination

**C. Haemolytic reaction

D. Allergic reaction

A 25-year-old man brought to the Emergency Department unconscious with massive bleeding from stab wound in the right thigh. On examination, he was pale with active bleeding from the stab wound (see lab result).

Test Result Normal Value
Hb 89 130-170 g/L

Which of the following is the most important initial step in management?

A. Intravenous ringer lactate infusion

B. Tourniquet around right thigh

C. Transfusion of fresh blood

**D. Orotracheal intubation

A 37-year-old man with a history of chronic duodenal ulcer, presented to the Emergency Department complaining of frequent postprandial vomiting since last 2 weeks. On physical examination, he was dehydrated with positive succussion splash when shaking the abdomen.

Which of the following is the most expected acid-base abnormality?

A. Metabolic acidosis

**B. Metabolic alkalosis

C. Compensated metabolic acidosis

D. Compensated metabolic alkalosis

A 32-year-old man who is known to have ulcerative colitis, presented to Emergency Department with a history of frequent attacks of watery diarrhoea for 10 days . On examination, he was severely dehydrated with non-distended, soft abdomen.

Which of the following is the most expected acid-base abnormality?

**A. Metabolic acidosis

B. Metabolic alkalosis

C. Compensated metabolic acidosis

D. Compensated metabolic alkalosis

A 67-year-old man, known to have advanced antral carcinoma with liver metastasis, presented to the Emergency Department with a history of frequent vomiting for 10 days. On examination, he was jaundiced and dehydrated (see report).

ECG:
Flatted T-wave.

Which of the following is most expected finding in urinalysis?

**A. Aciduria

B. High sodium

C. High potassium

D. Alkaline urine

A 35-year-old man with a history of open appendectomy 5 years ago presented with abdominal pain, distension, vomiting and constipation for 3 days. On physical examination, he was dehydrated, abdomen was distended with marked tenderness in the right iliac fossa and exaggerated bowel sounds. He was scheduled for emergency exploratory laparotomy (see report).

Plain abdominal X-ray:
Distended small bowel, multiple air fluid levels with collapsed colon.

Which of the following is contraindicated?

A. Propofol

B. Ketamine

C. Sevoflurane

**D. Nitrous oxide

A 45-year-old man involved in a motor vehicle accident with an isolated head injury, remains in coma for 5 days after the accident.

Which of the following is the most appropriate feeding method in the early stage of management?

A. Gastrostomy tube feeding

**B. Nasogastric tube feeding

C. Central parenteral feeding

D. Peripheral parenteral feeding

A 64-year-old man with emphysema was admitted with hematemesis. On endoscopy, a bleeding duodenal ulcer was diagnosed and controlled but the patient became confused and agitated (see lab results).

Test Result Normal Values
ABG PCO2 75 4.7-6.0 kPa
pH 7.23 7.36-7.45
ABG PO2 42 10.6-14.2 kPa

Which of the following is the most appropriate therapy?

A. Dexamethasone

B. Sodium bicarbonate

C. High flow O2 therapy

**D. Intubate and hyperventilate

An 18 year-old woman developed urticaria and wheezing following intravenous injection of contrast for abdominal CT scan.

Blood Pressure 90/50 mmHg
Heart rate 110 /min
Temperature 37.2 °C

Which of the following is the most appropriate immediate therapy?

A. Steroids

B. Intubation

**C. Epinephrine

D. Beta blocker

A 40-year-old woman presented with progressive redness over the dorsum of the left hand associated with pain and fever. She gave a history of a knife prick at the affected area 3 days ago.

Temperature 37.9 °C

Which of the following is the most likely diagnosis?

**A. Cellulites

B. Carbuncle

C. Gas gangrene

D. Necrotizing fasciitis

A 50-year-old man who is known to have non-insulin dependent diabetes, presented with a progressive painful swelling on the back of the neck for 5 days. On physical examination, there is a 5x6 cm swelling and redness with multiple discharging openings.

Which of the following is the most likely diagnosis?

A. Abscess

B. Cellulitis

C. Furuncle

**D. Carbuncle

Which of the following is a contraindication for liver transplantation?

A. Acute liver failure

**B. Liver cirrhosis with active alcohol

C. End stage liver disease with ascites

D. End stage liver disease with encephalopathy

A patient presented with frequent vomiting due to gastric outlet obstruction

Which of the following is the most expected abnormalities?

A. Metabolic acidosis with hyperkalaemia

**B. Metabolic alkalosis with hypokalaemia

C. Metabolic acidosis with hypokalaemia

D. Metabolic alkalosis with hyperkalaemia

Which of the following hormones reduces the water loss through the kidneys?

**A. Vasopressin

B. Angiotensin

C. Cortisone

D. Rennin

A patient presented with severe diarrhoea.

Which of the following is the most expected abnormalities?

**A. Metabolic acidosis with hypokalaemia

B. Metabolic acidosis with hyperkalaemia

C. Metabolic alkalosis with hypokalaemia

D. Metabolic alkalosis with hyperkalaemia

A patient presented with sever maxillofacial injury with mandibular fracture dislocation and profuse oral bleeding.

Which of the following is most appropriate way to secure the airway?

A. Laryngeal mask

B. Orotracheal tube

C. Nasotracheal tube

**D. Cricothyroidotomy

Which of the following is the most common cause of fever in the first 24-hours after abdominal surgery?

**A. Atelectasis

B. Wound infection

C. Blood transfusion

D. Intra-abdominal collection

A 21-year-old man was brought to the Emergency Department following a motorbike crash, complaining of difficulty in breathing. On examination, he was conscious, oriented, dyspnoeic with reduced breath sounds and tympanic percussion over the left hemithorax.

Blood pressure 90/55 mmHg
Heart rate 110 /min

Which of the following is the most appropriate next step in management?

A. Plain chest X-ray

B. Endotracheal intubation and ventilation

**C. Needle decompression of left hemithorax

D. Chest tube insertion in the left hemithorax

A 20-year-old man was brought to the Emergency Department, 20 minutes after a motor vehicle accident. On examination, his extremities were warm, he was conscious, oriented with a clear chest and normal abdomen.

Blood pressure 90/40 mmHg
Heart rate 70 /min

Which of the following is the most likely type of shock?

A. Septic

**B. Neurogenic

C. Cardiogenic

D. Hypovolemic

A 25-year-old man was admitted through the Emergency Department complaining of a 5-day history of right iliac fossa pain. Physical examination confirmed a tender mass in the right iliac fossa with sluggish bowel sounds (see report).

CT scan:
Acute appendicitis, appendicolith, with 10x15 cm abscess, extending from the right iliac fossa to the abdominal wall.

Which of the following is the most appropriate intervention?

A. Open drainage of the collection

**B. Percutaneous drainage of the collection

C. Open appendectomy with drainage of the collection

D. Laparoscopic appendectomy with drainage of collection

A 33-year-old women presented with 1-day history of right upper quadrant abdominal pain associated with fever, nausea and vomiting. Physical examination confirmed marked tenderness in the right upper quadrant of the abdomen (see report).

Ultrasound:
Thick wall gallbladder, pericholecystic fluids and multiple gallstones.

Which of the following is the most appropriate management?

A. Early open cholecystectomy

**B. Early laparoscopic cholecystectomy

C. Delayed cholecystectomy in 2-3 months

D. Emergency cholecystectomy tube insertion

A 28-year-old woman was admitted through the Emergency Department with a 12-hour history of epigastric pain. Physical examination confirmed epigastric tenderness. Over the next 3 days during the hospitalization, the patient completely recovered clinically and biochemically (see lab results and report).

Test Result Normal Values
Alkaline phosphatase 110 39-117 IU/L
Amylase 250 24-151 IU/L

Ultrasound:
Multiple gallstones with mild extrahepatic biliary dilatation.

Which of the following is the most appropriate intervention?

A. Abdominal computed tomography

**B. Cholecystectomy before discharge

C. Interval cholecystectomy in 6-8 weeks

D. Endoscopic retrograde cholangiopancreatography

A 38-year-old man with a history of recurrent acute pancreatitis over the last 10 years, presents with a 12-hour history of frequent episodes of vomiting fresh blood. Intravenous fluid resuscitation was initiated (see reports).

Upper gastrointestinal endoscopy:
Isolated bleeding fundal varices which has been controlled by injection sclerotherapy.

Ultrasound:
Splenomegaly, normal portal vein and thrombosed splenic vein.

Which of the following is the most appropriate management?

[✓ **A. Splenectomy]

B. Portacaval shunt

C. Distal splenorenal shunt

D. Sengstaken blakmore tube

A 28-year-old woman presented to the Emergency Department with 18-hour history of severe epigastric pain associated with vomiting. She is known to have multiple small gallstones. Physical examination confirmed upper abdominal tenderness (see lab results).

Test Result Normal Values
WBC 13.4 4.5-10.5 x 109/L
Alkaline phosphatase 289 39-117 IU/L

Amylase 488 24-151 IU/L
Direct bilirubin 19 1.5-6.5 µmol/L
Total bilirubin 34 3.5-16.5 µmol/L

Which of the following is the most appropriate initial management?

A. Abdominal ultrasound

**B. Intravenous crystalloid infusion

C. Intravenous broad spectrum antibiotics

D. Endoscopic retrograde cholangiopancreatography

A 19-year-old woman complains of a 4-month history of a left breast mass. Breast examination confirmed a well-circumscribed, firm, smooth mobile lump, 2x2 cm in size, in the lateral upper quadrant of the left breast.

Which of the following is the most likely diagnosis?

A. Sclerosis

B. Galactocele

C. Duct ectasia

**D. Fibroadenoma

A 25-year-old breastfeeding mother presented with right breast pain for 24-hours. Examination confirmed a tender swelling with skin redness in the outer lower quadrant of the right breast, with warm skin, but no fluctuation.

Which of the following is the most appropriate initial management?

A. Aspiration

**B. Flucloxacillin

C. Prolactin antagonist

D. Incision and drainage

A 65-year-old man presented to the Emergency Department with an 8-hour history of severe, sudden central abdominal pain associated with vomiting. He has a history of cardiomyopathy. He reports having passed loose stools once. On examination, the abdomen was soft with exaggerated bowel sounds (see lab results).

Test Result Normal Values
WBC 26.7 4.5-10.5 x 109/L
Amylase 155 24-151 IU/L

Which of the following is the most likely diagnosis?

A. Acute pancreatitis

B. Small bowel obstruction

C. Dissecting aortic aneurysm

**D. Mesenteric vascular occlusion

A 58-year-old woman complains of a 4-month history of a right breast lump, increasing in size, associated with bloody nipple discharge. Physical examination confirmed a 4cm central hard mass with ill-defined edges. The right nipple was inverted with enlarged axillary lymph nodes (see report).

Mammogram:
Sub-areolar dense irregular density with microcalcification and thickening of overlying skin.

Which of the following is the most appropriate next step in management?

A. Excisional biopsy

**B. Needle core biopsy

C. Discharge cytology

D. Fine needle aspiration

A 68-year-old man was admitted through the Emergency Department with a 24-hour history of sudden severe lower abdominal pain, associated with progressive abdominal distension and constipation. On examination, the abdomen was hugely distended, tympanic with tenderness over the left iliac fossa. Digital rectal examination confirmed an empty rectum (see lab result and report).

Test Result Normal Value
WBC 22 4.5-10.5 x 109/L

Abdominal plain X-ray:
Y-shaped shadow surrounded by a hugely distended colon arising from the pelvis.

Which of the following is the most appropriate intervention?

A. Fleet enema

B. Colonoscopy

C. CT with double contrast

**D. Sigmoid colectomy with end colostomy

A 28-year-old man presented with a 2-month history of frequent attacks of bloody stools. Physical examination was unremarkable. Proctoscopic examination showed multiple rectal polyps (see report).

Colonoscopy:
Colon and rectum were carpeted with polyps, multiple biopsies were taken.

Which of the following is the most likely diagnosis?

A. Ulcerative colitis

B. Diverticulosis coli

**C. Familial adenomatous polyposis

D. Human Papilloma virus proctitis

A 72-year-old diabetic presented to the Emergency Department with a 2-day history of lower abdominal pain, nausea, vomiting and bloody diarrhoea. Physical examination confirmed tenderness in the left lower quadrant (see lab result and report).

Test Result Normal Value
WBC 17.4 4.5-10.5 x 109/L

Plain abdominal x-ray:
Thickened descending and sigmoid colon with thumb printing appearance.

Which of the following is the most likely diagnosis?

A. Crohn's disease

**B. Ischemic colitis

C. Ulcerative colitis

D. Acute diverticulitis

A 65-year-old man complains of a 2-month history of dysuria associated with the passage of cloudy urine with bubbling on micturition. He reports a 2-year history of recurrent left iliac fossa pain. Physical examination was unremarkable (see reports).

Sigmoidoscopy:
Narrowed sigmoid colon with intact mucosa.

Cystoscopy:
Erythematous area in the dome of the bladder.

Which of the following is the most likely diagnosis?

**A. Ischemic colitis

B. Diverticular disease

C. Squamous cell carcinoma of the bladder

D. Transitional cell carcinoma of the bladder

A 28-year-old man presented with a 4-day history of abdominal pain, associated with frequent bloody diarrhoea and vomiting. Physical examination confirmed he was dehydrated, had a distended abdomen, tenderness mainly over the lower abdomen with sluggish bowel sounds. He is known to have ulcerative colitis and is having medical treatment (see lab result and report).

Test Result Normal Value
WBC 21.3 4.5-10.5 x 109/L

Plain abdominal X-ray:
Dilated transverse colon (15 cm) with loss of haustrations.

Which of the following is the most appropriate management?

A. High dose systemic steroid

B. High dose systemic infliximab

C. Proctocolectomy with ileal pouch

**D. Total colectomy with end ileostomy

A 66-year-old healthy man complains of rectal bleeding for 3 months. Anorectal examination confirmed 3rd degree haemorrhoids.

Which of the following is the most appropriate next step in management?

**A. Colonoscopy

B. Haemorrhoidectomy

C. Abdominal computed tomography

D. Submucosal injection of sclerosant

A 52-year-old man presented to the Emergency Department complaining of a 5-day history of right upper quadrant abdominal pain associated with fever, and yellowish discoloration of sclera. On examination, he was jaundiced with mild right upper quadrant abdominal tenderness (see lab results).

Test Result Normal Values
Alkaline phosphatase 389 39-117 IU/L
Alanine aminotransferase 85 5-40 IU/L
Aspartate aminotransferase 78 12-40 IU/L
Direct bilirubin 55 1.5-6.5 µmol/L
Total bilirubin 66 3.5-16.5 µmol/L

Which of the following is the most appropriate next investigation?

A. Abdominal computed tomography

**B. Trans-abdominal ultrasonography

C. Magnetic resonant cholangiopancreatography

D. Endoscopic retrograde cholangiopancreatography

A 38-year-old woman presented to the Emergency Department with epigastric pain for 6-days, radiating to the back, associated with frequent vomiting. She is known to have multiple small gallstones. Physical examination confirmed diffuse abdominal distention, epigastric tenderness with sluggish bowel sounds (see lab results and report).

Test Result Normal Values
Alkaline phosphatase 115 39-117 IU/L
Amylase 149 24-151 IU/L
Direct bilirubin 5.6 1.5-6.5 µmol/L
Total bilirubin 15.8 3.5-16.5 µmol/L

Erect chest X-ray:
Left pleural effusion.

Which of the following is the most appropriate initial investigation?

A. Trans-abdominal ultrasound

**B. Urine analysis for amylase level

C. Abdominal computed tomography

D. Analysis of gastrointestinal aspirated fluids

A 38-year-old woman presented to Emergency Department complaining of epigastric pain and post-prandial vomiting. She was conservatively treated for acute pancreatitis 4 weeks ago. Physical examination confirmed tenderness and fullness in the epigastric region (see lab results and report).

Test Result Normal Values
Amylase 413 24-151 IU/L
WBC 15.9 4.5-10.5 x 109/L

Abdominal ultrasound:
Fluid collection surrounded by thick wall in the lesser sac 15 x 17 cm in size.

Which of the following is the most likely diagnosis?

**A. Abscess

B. Phlegmon

C. Pseudocyst

D. Walled off necrosis

A 42-year-old man presented to the Emergency Department complaining of a 12-hour history of severe epigastric pain. Physical examination confirmed upper abdominal tenderness (see lab results and report).

Test Result Normal Values
WBC 14.5 4.5-10.5 x 109/L
Amylase 254 24-151 IU/L

Erect chest X-ray:
Normal.

Which of the following is the most appropriate next step in management?

**A. Abdominal CT scan

B. Abdominal ultrasound

C. Exploratory laparotomy

D. Urine analysis for amylase

A 67-year-old man presented with a 2-month history of yellowish discoloration of his sclera and skin with dark urine and pale stool. On examination, he was jaundiced with a palpable distended gallbladder (see report and lab results)

Test Result Normal Values
Alkaline phosphatase 421 39-117 IU/L
Direct bilirubin 122.3 1.5-6.5 µmol/L
Total bilirubin 134.5 3.5-16.5 µmol/L

Ultrasound:
Dilated intra and extrahepatic bile ducts with hugely distended gallbladder.

Which of the following is the most likely diagnosis?

A. Klatskin tumour

**B. Pancreatic cancer

C. Mirizzis syndrome

D. Common bile duct stone

A 25-year-old patient presented to the Emergency Department with a 6-hour history of severe periumbilical colicky abdominal pain associated with frequent vomiting, and abdominal distension. Physical examination confirmed diffuse abdominal distention with exaggerated bowel sounds.

Which of the following is the most appropriate initial step in management?

A. Ultrasound abdomen

B. Diagnostic laparoscopy

**C. Examination of the groin

D. Abdominal computed tomography

A 28-year-old is 4-days post-exploratory laparotomy for a perforated acute appendicitis and is complaining of generalized abdominal discomfort and vomiting. Physical examination confirmed a distended abdomen, mild generalized tenderness, and sluggish bowel sounds (see lab result and report)

Test Result Normal Value
WBC 12.5 4.5-10.5 x 109/L

Abdominal X-ray:
Multiple air-fluid levels.

Which of the following is the most likely diagnosis?

**A. Paralytic ileus

B. Volvulus of small bowel

C. Intra-abdominal collection

D. Adhesive small bowel obstruction

A 28-year-old man presented with a 2-year history of reducible right inguinal hernia that became painful for 16 hours. It is associated with progressive abdominal distension, and vomiting. Physical examination confirmed a distended abdomen, exaggerated bowel sound, and a tender right inguinal swelling with red discoloration of the overlying skin (see lab result and report).

Test Result Normal Value
WBC 9.8 4.5-10.5 x 109/L

Erect abdominal X-ray:
Multiple air fluid levels.

Which of the following is the most likely hernia complication?

A. Irreducible

B. Obstructed

C. Incarcerated

**D. Strangulated

A 42-year-old woman presented with a 4-month history of an anterior neck swelling. Physical examination confirmed a solitary nodule in the right lobe of thyroid (see lab results and report)

Test Result Normal Values
Thyroid-Stimulating Hormone 0.05 0.4 - 5.0 µU/mL
Thyroxine (T4 free serum) 37 8.5 - 15.2 pmol/L

Ultrasound:
Right thyroid lobe solitary solid nodule 2 x 3 cm.

Which of the following is the most appropriate next step in management?

A. Thyroid CT scan

B. Right hemithyroidectomy

**C. Thyroid isotope scintigraphy

D. Fine needle aspiration cytology

A 33-year-old woman presented with a lump in her neck. Physical examination confirmed enlarged right cervical lymph nodes with normal thyroid gland. She underwent percutaneous biopsy of the lymph nodes (see report).

Histopathology:
Normal follicular thyroid cells.

Which of the following is the most likely diagnosis?

A. Ectopic thyroid

B. Thyroid lymphoma

**C. Papillary thyroid cancer

D. Follicular thyroid cancer

A 52-year-old woman presented with a 3-month history of a progressive anterior neck swelling with stridor. She has a 12-year history of Hashimoto's thyroiditis. Physical examination confirmed a diffuse, large, non-tender thyroid swelling with retrosternal extension. A core needle biopsy was ordered (see reports).

Ultrasound:
Diffuse thyroid enlargement, encasing bilateral carotid sheaths.

Histopathology:
Malignant thyroid tumour.

Which of the following is the most likely tumour?

A. Follicular

B. Medullary

C. Anaplastic

**D. Lymphoma

A 75-year-old man presented with a 12-hour history of sudden lower abdominal pain, associated with progressive abdominal distension, nausea, vomiting and absolute constipation. Physical examination confirmed a grossly distended abdomen, generalized discomfort with normal bowel sounds with an empty rectum (see report).

Erect abdominal X-ray:
Massively distended bowel loop pointing to the right upper quadrant.

Which of the following is the most likely diagnosis?

**A. Sigmoid volvulus

B. Rectosigmoid cancer

C. Closed loop obstruction

D. Acute sigmoid diverticulitis

A 58-year-old man presented with a 4-month history of generalized fatigability and shortness of breath. Physical examination confirmed a non-tender mass in the right iliac fossa (see lab result).

Test Result Normal Value
Hb 66 130-170 g/L

Which of the following is the most important step in management?

**A. Colonoscopy

B. Abdominal ultrasound

C. Percutaneous biopsy of the mass

D. Abdominal computed tomography

A 45-year-old woman presents to the Emergency Department with severe continuous mid-abdominal pain for 16 hours, associated with nausea and vomiting. She is known to have cholelithiasis. Physical examination confirmed epigastric tenderness (see lab results).

Test Result Normal Values
WBC 13 4.5-10.5 x 109/L
Amylase 650 24-151 IU/L

Which of the following is the most likely diagnosis?

A. Hepatitis

**B. Acute pancreatitis

C. Acute cholecystitis

D. Perforated peptic ulcer disease

A 58-year-old man presented with a 3-month history of vague epigastric pain associated with weight loss and loss of appetite. Physical examination was normal.

Which of the following is the most appropriate investigation?

A. Plain abdominal CT

**B. Gastroduodenoscopy

C. Abdominal ultrasound

D. Gastrografin swallow

A 33-year-old man presented to the Emergency Department with a 24-hour history of epigastric pain. Physical examination confirmed tenderness in the epigastric area with normal bowel sounds (see lab results and report)

Blood pressure 100/60 mmHg
Heart rate 110 /min
Temperature 37.7 °C

Test Result Normal Values
WBC 14 4.5-10.5 x 109/L
Amylase 223 24-151 IU/L

Erect chest x-ray:
Free air under diaphragm.

Which of the following is the most appropriate next step in management?

A. Gastrografin swallow

B. Gastroduodenoscopy

**C. Exploratory laparotomy

D. Conservative treatment

A 27-year-old obese woman presented to the Emergency Department with a 6-day history of right iliac fossa pain associated with nausea, vomiting, and loss of appetite. Physical examination confirmed tenderness in the right iliac fossa (see lab result).

Test Result Normal Value
WBC 13 4.5-10.5 x 109/L

Which of the following is the most appropriate next step in management?

A. Open surgery

**B. Abdominal CT scan

C. Abdominal ultrasound

D. Diagnostic laparoscopy

A 34-year-old man who underwent an open repair of a right inguinal hernia 3 years ago, presented with a 3-month history of a right groin swelling that is associated with dragging pain. Physical examination confirmed a right groin reducible swelling with positive cough impulse, reaching the neck of scrotum.

Which of the following is the most appropriate next step management?

A. Open repair

B. CT abdomen

C. Scrotal support

**D. Laparoscopic mesh repair

A 48-year-old woman presented with a 12-hour history of a painful swelling in the right groin. Physical examination confirmed an irreducible tender swelling in the groin area that is 3 x 4cm. Surgical exploration confirmed a strangulated hernia and the neck is lateral and inferior to the pubic tubercle.

Which of the following is the most likely hernia?

**A. Femoral

B. Obturator

C. Direct inguinal

D. Indirect inguinal

A 25-year-old presented to the Emergency Department with a 2-day history of diffuse colicky abdominal pain, associated with abdominal distension, vomiting and constipation. Physical examination confirmed diffuse abdominal discomfort with exaggerated bowel sounds (see reports).

CT scan:
Distended proximal small bowel with complete obstruction at the proximal ileum.

Exploratory laparotomy:
3 strictures over 60 cm of the ileum, the proximal one was the cause of small bowel obstruction.

Which of the following is the most likely diagnosis?

A. TB enteritis

**B. Crohn's disease

C. Small bowel lymphoma

D. Gastrointestinal stromal tumour

A 29 year-old patient presented with a 3-year history of frequent attacks of bloody diarrhoea. On examination, he was pale with a normal abdominal examination (see reports).

Barium enema:

Featureless "lead-pipe" colon.

Colonoscopy:
Diffusely inflamed colon with pseudopolyps, featureless terminal ileum and backwash ileitis.

Which of the following is the most likely type of colitis?

A. Crohn's

B. Amebic

C. Ischemic

**D. Ulcerative

A 19-year-old man presented with a 3-day history of frequent attacks of per-rectal fresh bleeding. Physical examination confirmed clotted blood in the rectum. Nasogastric tube was draining greenish coloured fluids (see lab result and report).

Test Result Normal Value
Hb 85 130-170 g/L (Male)
120-160 g/L (Female)

Colonoscopy:
No colorectal pathology.

Which of the following is the most appropriate diagnostic tool to localize source of bleeding?

A. Diagnostic laparoscopy

B. Gastrografin follow through

C. Upper gastrointestinal endoscopy

**D. 99mTc-labelled sodium pertechnetate

A 55-year-old man complains of a 2-month history of central abdominal pain. Physical examination was normal (see lab result and report).

Test Result Normal Value
24 hours 5-HIAA 21 mg 2-7 mg/24 h

CT scan:
Small bowel mass 4x5 cm, with some calcifications.

Which of the following is the most likely small bowel tumour?

**A. Carcinoid

B. Lymphoma

C. Schwannoma

D. Gastrointestinal stroma

A 32-year-old man presented to the Emergency Department with pain and swelling of his right thigh after a trivial injury. Physical examination confirmed swelling, deformity of his right thigh with tenderness (see lab results and report).

Test Result Normal Values
Parathyroid hormone (intact PTH levels) 8.9 1.1-5.3 pmol/L
Calcium 4.5 2.15-2.62 mmol/L

X-ray:
Spiral fracture of right femur with subperiosteal resorption.

Which of the following is the most likely diagnosis?

**A. Parathyroid adenoma

B. Parathyroid carcinoma

C. Tertiary hyperparathyroidism

D. Secondary hyperparathyroidism

A 28-year-old married woman presented to the Emergency Department complaining of a 6-hour history of right iliac fossa pain associated with drowsiness. Physical examination confirmed tenderness over the lower abdomen with sluggish bowel sounds.

Which of the following is the most likely diagnosis?

A. Septic shock

**B. Ectopic pregnancy

C. Ruptured ovarian cyst

D. Pelvic inflammatory disease

A 32-year-old man presented to the Emergency Department with a 6-hour history severe sudden epigastric pain. Physical examination confirmed diffuse severe abdominal tenderness with sluggish bowel sounds (see lab results).

Test Result Normal Values
WBC 13.8 4.5-10.5 x 109/L
Amylase 300 24-151 IU/L

Which of the following is the most appropriate next step in management?

✓

**A. Erect chest X-ray

B. Abdominal X ray

C. CT scan abdomen

D. Ultrasound abdomen

A 53-year-old man complains of a 3-month history of vague epigastric pain and weight loss. Physical examination was normal (see reports).

Upper GIT endoscopy:
Antral gastric mass. Multiple deep biopsies were taken.

Histopathology:
Mucosa associated lymphoid tissue lymphoma and positive for Helicobacter pylori.

Which of the following is the most appropriate initial management?

A. Surgery

**B. Antibiotics

C. Radiotherapy

D. Chemotherapy

A 31-year-old patient presented with a 12-hour history of severe epigastric abdominal pain. Physical examination confirmed a tender abdomen with sluggish bowel sounds (see reports).

Erect chest X-ray:
Air under the diaphragm.

Exploratory laparotomy:
A 5x5 mm perforation in the anterior aspect of the 1st part of duodenum with peritoneal soiling.

Which of the following is the most appropriate management?

A. Distal gastrectomy

B. Pyloroplasty with truncal vagotomy

**C. Simple closure with omental patching ✓

D. Pyloroplasty with high selective vagotomy

A 55-year-old man presented with a 4-month history of vague epigastric pain associated with 15 kg weight loss. Physical examination confirmed enlarged left supraclavicular lymph nodes and gross ascites.

Which of the following is the most appropriate next step in management?

A. Abdominal ultrasound

B. Diagnostic laparoscopy

C. Abdominal paracentesis

**D. Upper gastrointestinal endoscopy

A 47-year-old man reported frequent vomiting over the past 24-hours due to food poisoning. He presented to the Emergency Department complaining of a 2-hour history of vomiting fresh blood. Physical examination confirmed mild epigastric tenderness. A nasogastric tube was inserted and was draining bloody stained fluids.

Which of the following is the most likely diagnosis?

A. Gastritis

B. Dieulafoy's lesion

C. Peptic ulcer disease

**D. Mallory-weiss syndrome

A 62-year-old man presented with a 3-month history of early satiety and 11 kg weight loss. Physical examination was normal (see reports).

Upper GIT endoscopy:
Ulcerating mass in the antrum. Multiple biopsies were taken.

Histopathology:
Invasive adenocarcinoma.

Which of the following is the most appropriate next investigation?

A. Abdominal ultrasound

B. Endoscopic ultrasound

C. Diagnostic laparoscopy

**D. CT scan chest, abdomen and pelvis

A 29-year-old woman presented to the Emergency Department with an 8-hour history of severe epigastric pain radiating to the back associated with vomiting. She underwent a sleeve gastrectomy 3 months ago for morbid obesity. Physical examination confirmed mild epigastric tenderness (see lab results and report).

Test Result Normal Values
WBC 9.8 4.5-10.5 x 109/L
Amylase 700 24-151 IU/L

Ultrasound:
Biliary sludge but no gallstone. Normal bile ducts.

Which of the following is the most appropriate intervention?

A. Endoscopic ultrasound

B. Endoscopic sphincterotomy

**C. Laparoscopic cholecystectomy

D. Percutaneous cholecystostomy

A 58-year-old woman presented to the Emergency Department with a 2-day history of central abdominal pain, associated with abdominal distension, vomiting and constipation. She has no history of abdominal surgery. Physical examination confirmed a distended, tympanic abdomen, with exaggerated bowel sounds (see report).

Erect abdominal X-ray:
Multiple air-fluid levels with pneumobilia.

Which of the following is the most likely diagnosis?

**A. Gallstone ileus

B. Intussusception

C. Small bowel volvulus

D. Small bowel ischemia

A 27-year-old man presented with a 10-day history of right upper quadrant abdominal pain associated with fever. Physical examination confirmed tenderness in the right upper quadrant. (see reports).

Enzyme-linked immunosorbent assay:
Positive for Entamoeba histolytica.

CT scan:
Large (10 x15 cm), septated abscess in the right lobe of the liver with poorly defined margin.

Which of the following is the most appropriate initial management?

A. Cephalosporin

**B. Metronidazole

C. Percutaneous drainage

D. Percutaneous aspiration

A 65-year-old man was admitted and ventilated in the Intensive Care Unit following a major burn injury. He was referred to surgery due to a 24-hour history of right upper quadrant abdominal pain. Physical examination confirmed tenderness in right upper quadrant (see reports).

Erect chest X-ray:
Normal.

Ultrasound:
Distended gallbladder with thick wall and pericholecystic fluid but no gallstone.

Which of the following is the most appropriate next step?

A. Open cholecystectomy

**B. Cholecystostomy tube insertion

C. Abdominal computed tomography

D. Magnetic resonant cholangiopancreatography

A 65-year-old man presented with a 3-month history of vague upper abdominal pain associated with progressive yellowish discoloration of his sclera, dark urine and weight loss. On examination, he was jaundiced with a palpable, distended non-tender gallbladder (see lab results).

Test Result Normal Values

Alkaline phosphatase 320 39-117 IU/L
Direct bilirubin 77 1.5-6.5 µmol/L
Total bilirubin 88 3.5-16.5 µmol/L

Which of the following is the most likely diagnosis?

A. Klatskin tumour

**B. Periampullary tumour

C. Common bile duct stone

D. Hepatocellular carcinoma

A 58-year-old man presented to the Emergency Department complaining of right iliac fossa pain for 5 days. Physical examination confirmed a tender mass in the right iliac fossa. The patient was admitted, treated non-operatively and discharged from the hospital after 7 days with complete recovery (See report).

Ultrasound:
Appendiceal mass without collection.

Which of the following is the most appropriate next step?

A. No further intervention

**B. Colonoscopy in 6 weeks

C. Open appendectomy in 12 weeks

D. Laparoscopic appendectomy in 12 weeks

A 36-year-old man presented to the Emergency Department with a 24-hour history of central abdominal pain associated with abdominal distension, vomiting and constipation. He had an appendectomy 7 years ago. Physical examination confirmed diffuse abdominal distension, mild abdominal tenderness with exaggerated bowel sounds (see lab results and report).

Test	Result	Normal Values
Amylase	288	24-151 IU/L
WBC	11.4	4.5-10.5 x 109/L

Erect X-ray:
Multiple air fluid with dilated small bowel.

Which of the following is the most appropriate investigation?

A. Abdominal ultrasound

B. Exploratory laparotomy

**C. Abdominal computed tomography

D. Laparoscopic abdominal exploration

A 25-year-old man underwent an exploratory laparotomy 5-days ago, for a perforated peptic ulcer. He continues to have abdominal distension and vomiting. Physical examination confirmed a distended non-tender abdomen with sluggish bowel sounds (see report).

Abdominal X-ray:
Dilated small and large bowel with multiple air fluid levels.

Which of the following is the most appropriate next step in management?

A. Abdominal ultrasound

B. Gastrografin follow through

**C. Check serum potassium level

D. Abdominal computed tomography

A 74-year-old man presented with a 2-month history of vague upper abdominal pain associated with progressive yellowish discoloration of his skin and sclera and dark urine. On examination, he was jaundiced (see lab result and report).

Test Result Normal Values
Alkaline phosphatase 312 39-117 IU/L
Direct bilirubin 87 1.5-6.5 µmol/L
Total bilirubin 97 3.5-16.5 µmol/L

Ultrasound:
Dilated intrahepatic biliary tree with collapsed gallbladder.

Which of the following is the most likely diagnosis?

**A. Klatskin tumour

B. Mirizzi's syndrome

C. Gallbladder cancer

D. Periampullary tumour

A 41-year-old woman presented to the Emergency Department complaining of a 2-week history of upper abdominal pain associated with vomiting and fever. History reveals she underwent conservative treatment of acute hyperlipidaemia induced pancreatitis 6 weeks ago. Physical examination confirmed tenderness in the epigastric region (see lab result and report).

Blood pressure 110/70 mmHg
Heart rate 100 /min
Temperature 38.1 °C

Test Result Normal Values
WBC 20.2 4.5-10.5 x 109/L
Amylase 245 24-151 IU/L

Ultrasound:
Well circumscribed collection (15 x 17 cm) in the lesser sac.

Which of the following is the most appropriate initial method of drainage?

A. Endoscopic

B. Laparoscopic

**C. Percutaneous

D. Open surgical

A 45-year-old presented to the Emergency Department with a 12-hour history of vomiting fresh blood. He has a 10-year history of recurrent peptic ulcers. Physical examination was normal (see report).

Upper GIT endoscopy:
Esophagitis, multiple non-bleeding gastroduodenal ulcers, the distal one is in the 4th part of duodenum.

Which of the following has the most diagnostic value?

A. Calcium

B. Parathormone

**C. Fasting serum gastrin

D. Vasoactive intestinal polypeptide

A 37-year-old complained of a right breast lump for 3 months. She has family history of breast cancer. Physical examination confirmed a hard lump in the upper outer quadrant of the right breast with ill-defined edge and skin tethering and no palpable axillary lymph node.

Which of the following is the most appropriate next step in management?

A. MRI breast

B. Core needle biopsy

**C. Bilateral mammography

D. Fine needle aspiration cytology

A 32-year-old woman presented with a 2-month history of left breast pain associated with bloody nipple discharge. Physical examination confirmed a normal left breast and axilla.

Which of the following is the most appropriate initial breast investigation?

A. MRI

B. CT scan

**C. Ultrasound

D. Mammogram

A 44-year-old patient presented with an anterior neck swelling for 2 months. Physical examination confirmed a hard lump in the left side of the anterior triangle of the neck moving up with swallowing but no palpable cervical lymph nodes (see reports).

Ultrasound:
Mildly enlarged thyroid, with 1.5 cm solid nodule in the left lobe. Normal right lobe

Fine needle aspiration cytology:
Medullary thyroid cancer.

Which of the following is the most appropriate procedure?

A. Nodule enucleation

**B. Total thyroidectomy

C. Subtotal thyroidectomy

D. Left hemithyroidectomy

A 32-year-old woman complained of an anterior neck lump which she noticed 3 months ago. Physical examination confirmed a firm lump in the right side of the anterior triangle of the neck moving up with swallowing but no palpable cervical lymph nodes (see lab results and reports).

Blood pressure 120/70 mmHg
Heart rate 115 /min
Temperature 36.7 °C

Test Result Normal Values
TSH 0.1 0.4 - 5.0 µU/mL
Free T3 11 3.5 - 6.5 pmol/L
Total T4 277 64-155 nmol/L

Ultrasound:
Lump in the right thyroid lobe 2x3 cm.

Thyroid isotope scan:
Hot nodule in right lobe with the remainder of the gland is cold

Which of the following is the most appropriate initial step in management?

**A. Anti-thyroid drugs

B. Total thyroidectomy

C. Right thyroid lobectomy

D. Radioactive iodine ablation

A 25-year-old man presented to the Emergency Department with severe pain during and after defecation for 3 days associated with passage of a small amount of fresh blood after defecation. Physical examination confirmed an acute posterior anal fissure. Digital and proctoscopic examination were not performed due to the anal pain.

Which of the following is the most appropriate management?

A. Examination under anaesthesia

B. Lateral internal anal sphincterotomy

**C. Chemical sphincterotomy with diltiazem

D. Botulinus toxin paralysis of anal sphincter

A 36-year-old woman complaining of per-rectal bleeding and prolapsed tissue masses through the anal verge. Anorectal examination confirmed grade IV haemorrhoids at 3 , 7, and 11 clock positions.

Which of the following is the most appropriate management?

A. Rubber banding

**B. Open haemorrhoidectomy

C. Infrared photocoagulation

D. Submucosal injection of sclerosant

A 65-year-old man presented to the outpatient department complaining of alternating constipation and diarrhoea for 4 months. Physical examination was normal (see reports)

Rigid Sigmoidoscopy:
Circumferential, ulcerating mass in the distal part of sigmoid colon. Multiple biopsies were taken.

Histopathology:
Adenocarcinoma.

Which of the following is the most appropriate next step in management?

A. Abdominal CT scan

B. Sigmoidectomy

**C. Colonoscopy

D. Pelvic MRI

A 48-year-old man complains of right upper quadrant abdominal pain for 4 months. Physical examination was normal (see reports).

Serology:
Echinococcus granulosus was positive.

Ultrasound:
Large cystic lesion (10x15 cm) in the right lobe of the liver with multiple intra-cystic daughter cysts, but no calcifications.

Which of the following is the most appropriate management?

**A. Surgical de-roofing

B. Percutaneous aspiration

C. Long-term albendazole therapy

D. Percutaneous sclerosant injection

A 29-year-old woman presented to the Emergency Department with diffuse abdominal pain for 1 day associated with progressive abdominal distension, vomiting and constipation. Physical examination confirmed abdominal distension, diffuse mild tenderness and exaggerated bowel sounds (see report).

CT scan:
Distended small bowel with ileocecal intussusception causing complete small bowel obstruction.

Which of the following is the most appropriate procedure?

A. Colonoscopy

**B. Surgical resection

C. Surgical reduction

D. Reduction by barium enema

A 32-year-old woman presented to the Emergency Department with severe pain in the right upper quadrant of the abdomen following a fatty meal 6-hours ago. This pain has decreased in severity over the last 2 hours. The pain was radiating to the right subscapular area associated with vomiting. Physical examination was normal (see lab results and report).

Test Result Normal Values
WBC 8.2 4.5-10.5 x 109/L
Amylase 134 24-151 IU/L

Ultrasound:
Multiple gallstone with normal gallbladder wall.

Which of the following is the most appropriate management?

A. Observation

B. Ursodeoxycholic

**C. Laparoscopic cholecystectomy

D. Magnetic resonant cholangiopancreatography

A 36-year-old presented to the Emergency Department with a 9-day history of right iliac fossa pain, diarrhoea and fever. He was diagnosed with Crohn's disease 10 years ago. Physical examination confirmed a tender mass in the right iliac fossa (see lab result and report).

Test Result Normal Value
WBC 17.6 4.5-10.5 x 109/L

CT scan:
Collection in the right iliac fossa (12x15 cm) with jejune-ileal fistula.

Which of the following is the most appropriate initial treatment?

A. Laparoscopic drainage

**B. Percutaneous drainage

C. Open surgical drainage

D. Open drainage with resection of fistula

A 33-year-old presented with a lump in her neck. Physical examination confirmed enlarged right cervical lymph nodes with normal thyroid gland. She underwent percutaneous biopsy of the lymph nodes (see report).

Histopathology:
Normal follicular thyroid cells.

Which of the following is the most appropriate next step?

A. Reassurance

**B. Surgical referral

C. Lymph node excision

D. 3 months follow up ultrasound

A 42-year-old woman presented with a right breast mass that has been present for 3 months and is not associated with other symptoms. Physical examination confirmed a 2 x 2 cm firm partially movable mass with associated skin tethering and an enlarged axillary lymph node (see report).

Bilateral breast mammogram and ultrasound:
Ill-defined lobulated dense mass that is hypoechoic on ultrasound, measuring 2 x 2 cm, not associated with speculation or suspicious microcalcifications. Coded as BI-RADS IV.

Which of the following is the most appropriate next step in management?

A. Excision biopsy

**B. Needle core biopsy

C. Fine needle aspiration

D. Short interval follow-up imaging

A 54-year-old woman complains of a left breast mass that has been present for 9 months. Physical examination confirmed a 3 x 3 cm firm fixed mass at the left retro-areolar area with associated nipple retraction (see report).

Bilateral breast mammogram:
Speculated mass at left retro-areolar region associated with suspicious clustered microcalcifications. There are multiple pathological left axillary lymph nodes. Findings coded as BI-RADS V (Probably Malignant).

Which of the following is the most appropriate next step in management?

A. Excision biopsy

**B. Needle core biopsy

C. Staging CT and bone scan

D. Modified radical mastectomy

A 40-year-old woman presented for her first screening mammography. She has no past medical history, and no family history of cancer (see reports).

Bilateral breast mammogram:
Bilateral dense breast with multiple fibro glandular opacities, no suspicious microcalcifications or speculated lesions.

Breast ultrasound:
Bilateral multiple variable sizes cysts. Findings coded as BI-RADS III (Probably benign).

Which of the following is the most appropriate next step in management?

A. Annual screening

B. Needle core biopsy

**C. Short interval follow-up imaging

D. Magnetic resonant mammography

A 32-year-old woman a 28-week pregnant presents with an enlarging right breast mass that has been present for 4 months and is associated with mild pain. Physical examination confirmed a 3 x 2 cm firm movable mass not associated with skin changes or enlarged axillary lymph nodes.

Which of the following is the most appropriate next step in management?

A. Fine needle aspiration

**B. Bilateral breast ultrasound

C. Bilateral diagnostic mammography

D. Reassure and reassess after delivery

A 60-year-old woman complains of left nipple discharge that is spontaneous, blood stained and recurrent for the past 6 months. Physical examination was normal (see reports).

Bilateral Breast Mammogram:
Normal.

Breast Ultrasound:
Bilateral ductal dilatation, there is a 12 mm left intraductal lesion, suggestive of intraductal papilloma.

Which of the following is the most appropriate next step in management?

A. Discharge fluid cytology

B. Left central duct excision

**C. Image guided core biopsy

D. Short interval follow-up imaging

A 28-year-old presents with a neck mass that has been present for 1 year and is not associated with pressure symptoms. Physical examination confirmed a diffuse thyroid enlargement (see lab results and report).

Blood pressure 120/70 mmHg
Heart rate 90 /min
Temperature 36.7 °C

Test Result Normal Values
Thyroid-Stimulating Hormone 0.001 0.4 - 5.0 µU/mL
Thyroxine (T4 free serum) 21 8.5 - 15.2 pmol/L

Ultrasound thyroid:
Enlarged both thyroid lobes, with a solid nodule on the left side measure 1 x 2 cm and another nodule at the right side measure 4 x 3 cm.

Which of the following is the most appropriate next step in management?

**A. Thyroid scan

B. Total thyroidectomy

C. Fine needle aspiration of both nodules

D. Fine needle aspiration of the larger nodule

A 24-year-old man presented with neck pain for 4 months. Physical examination of the neck was normal (see lab results and report).

Test Result Normal Values
Thyroid-Stimulating Hormone 3.6 0.4 - 5.0 µU/mL
Thyroxine (T4 free serum) 11 8.5 - 15.2 pmol/L

Neck Ultrasound:
Normal size thyroid gland with a solitary solid left thyroid nodule measure 9 x 7 mm. Benign looking bilateral cervical lymph nodes.

Which of the following is the most appropriate management?

A. Thyroid scan

**B. Follow up imaging

C. Fine needle aspiration

D. Left thyroid lobectomy

A 36-year-old patient presented with a neck mass that has been present for 3 years. Physical examination confirmed a palpable left thyroid gland; with no palpable cervical lymph nodes (see reports).

Neck Ultrasound:
Left thyroid nodule occupying most of the left lobe, measures 3.4 x 3.8 cm and has mixed cystic and solid components, the right lobe is normal.

Fine Needle Aspiration:
Finding is codes as Bethesda IV (suspicious for follicular neoplasm).

Which of the following is the most appropriate management?

A. Thyroid scan

B. Total thyroidectomy

**C. Left hemithyroidectomy

D. Repeat fine needle aspiration

A 29-year-old patient underwent a right hemithyroidectomy for a symptomatic right thyroid nodule (see report).

Histopathology:
A 3 x 4 cm colloid nodule. There was a focal will differentiated papillary carcinoma measured 8 mm away from the main lesion, there was no extrathyroidal extension, and no lymphovascular invasion.

Which of the following is the most appropriate management?

**A. Follow-up

B. Whole body iodine scan

C. Radioactive iodine ablation

D. Completion of thyroidectomy

A 23-year-old woman presented with symptoms of hyperthyroidism. Physical examination confirmed a non-palpable thyroid gland, and bilateral exophthalmos was noted. She has been on anti-thyroid medication for 10 months (see lab results and report).

Test Result Normal Values
Thyroid-Stimulating Hormone 0.001 0.4 - 5.0 μU/mL
Thyroxine (T4 free serum) 29 8.5 - 15.2 pmol/L

Neck Ultrasound:
Mild diffuse enlargement of thyroid gland.

Thyroid scan:
Diffuse uptake of the thyroid gland consistent with toxic multi-nodular goiter.

Which of the following is the most appropriate management?

A. Subtotal thyroidectomy

**B. Near total thyroidectomy

C. Radioactive iodine ablation

D. Continue on medical therapy

A morbidly obese 35-year-old with no relevant past medical history consults for weight reduction.

Which of the following is the most useful to determine the most appropriate procedure?

A. Barium swallow

**B. Upper GI endoscopy

C. CT scan of abdomen

D. Ultrasound abdomen

A morbidly obese 23-year-old man complains of gastroesophageal reflux disease (see report).

Upper GI endoscopy:
Large hiatus hernia with grade III reflux.

Which of the following is the most appropriate weight reduction procedure?

A. Sleeve gastrectomy

B. Intra-gastric balloon

C. Bilio-pancreatic bypass

**D. Roux-en-y gastric bypass

A 26-year-old man presented 3 days after a sleeve gastrectomy with left upper abdominal pain. Physical examination confirmed only mild upper abdominal tenderness with no sign of peritonitis.

Blood pressure 100/70 mmHg
Heart rate 116 /min

Which of the following is the most likely explanation?

A. Dehydration

**B. Gastric leak

C. Pulmonary embolism

D. Inadequate analgesia

A 46-year-old man underwent an ERCP for biliary obstruction; the procedure was prolonged and difficult. 4 hours later, he developed extensive surgical emphysema of the abdomen, chest and neck.

Where is the most likely injury?

A. Gastric

B. Tracheal

**C. Duodenal

D. Esophageal

A 22-year-old man underwent an open left inguinal hernia mesh repair 2 weeks ago, presented with continuous discharge from the surgical wound. Examination confirmed a 2 x 3 cm pus-discharging wound with part of the mesh exposed.

Which of the following is the most appropriate management?

A. Systemic antibiotic

B. Wound debridement

**C. Wound drainage and mesh removal

D. Open entire wound for daily dressing

Which of the following is the most common cause of biliary colic?

**A. Cystic duct stone

B. Gall bladder stone

C. Gall bladder sludge

D. Choledocholithiasis

Which of the following is most commonly associated with biliary colic?

A. Bilirubin

B. Amylase

**C. Cholecystokinase

D. Alkaline phosphatase

Which of the following is the most preferred mesh placement for a ventral hernia repair?

A. Inlay

B. Onlay

**C. Sublay

D. Underlay

A 22-year-old woman presented 1-week after a laparoscopic appendectomy with mild abdominal pain not associated with nausea or vomiting, she reports passing infrequent loose stool. Physical examination confirmed a soft abdomen with mild tenderness at the wound site (see report).

CT scan of abdomen:
2 x 2 cm retrocaecal collection.

Which of the following is the most appropriate next step in management?

A. Percutaneous drainage

B. Open surgical drainage

C. Diagnostic laparoscopy

**D. Conservative management

A 52-year-old complains of left lower abdominal pain associated with passing loose stool and a loss of appetite. Examination confirmed left iliac fossa guarding and rebound tenderness (see lab result).

Blood pressure 110/70 mmHg
Heart rate 98 /min

Test Result Normal Value
WBC 19 4.5-10.5 x 109/L

Which of the following is the most likely diagnosis?

**A. Diverticulitis

B. Pyelonephritis

C. Sigmoid malignancy

D. Ruptured ovarian cyst

What structure passes through the deep inguinal ring?

A. Ilioinguinal nerve

B. Inferior epigastric artery

C. Medical umbilical ligament

**D. Round ligament of the uterus

A 36-year-old patient presented with a left neck mass. Examination confirmed a 2 x 2 cm mass at the posterior triangle just below the angle of the mandible (see reports).

Ultrasound of the neck:
Normal thyroid gland, large left cervical lymph node with cystic changes.

Fine needle aspiration:
The entire smear consists of follicular thyroid cells.

Which of the following is the most likely diagnosis?

A. Thyroglossal cyst

B. Ectopic thyroid gland

C. Apparent thyroid gland

**D. Metastatic thyroid cancer

A 45-year-old patient complains of frequent anal itching, and post defecation pain.

Which of the following is the most likely diagnosis?

**A. Anal fissure

B. Perianal fistula

C. Perianal hematoma

D. Internal hemorrhoids

A 50-year-old man underwent an open mesh repair of a left inguinal hernia. He presented 2 months later because he noticed that the left testes had become smaller in size.

Which of the following is the most likely cause?

A. Ligation of testicular artery

B. Mesh migration to the scrotum

**C. Thrombosis of pampiniform plexus

D. Tightening of external inguinal ring

A 30-year-old underwent a laparoscopic appendectomy 2 weeks ago (see report).

Histology:
Carcinoid tumor at the tip of the appendix measuring 0.5 cm.

Which of the following is the most appropriate management?

A. Colonoscopy

**B. No further action needed

C. Limited right hemicolectomy

D. CT scan of chest abdomen and pelvis

A 38-year-old man presented with a 4-hour history of sudden severe abdominal pain. He reports frequent use of non-steroidal anti-inflammatory drugs for joint pain. Examination confirmed generalized abdominal tenderness and guarding with absent bowel sounds (see lab result).

Temperature 37.8 °C

Test Result Normal Value
WBC 13 4.5-10.5 x 109/L

Which of the following is the most appropriate initial imaging?

**A. Erect chest X-ray

B. CT scan abdomen

C. Ultrasound abdomen

D. Supine abdominal X-ray

A 47-year-old man presented with a 6-month history of right groin swelling. The swelling recently increased in size. Examination confirmed an inguino-scrotal swelling with positive cough impulse and separable from testis.

Which of the following is the most likely diagnosis?

A. Spermatocele

B. Epidydimal cyst

C. Vaginal hydrocele

**D. Indirect inguinal hernia

A 38-year-old patient developed a painful swelling in the right lower quadrant of his abdomen after moving a heavy object. Examination confirmed a localized tender swelling in the right lower abdominal quadrant with negative cough impulse; it persisted even with contraction of abdominal muscles.

Which of the following is the most likely diagnosis?

A. Ventral hernia

B. Appendicular mass

C. Extraperitoneal lipoma

**D. Rectus sheath hematoma

A 60-year-old patient presented with a 6-month history of a dull achey abdominal swelling associated with weight loss. Examination confirmed a 20x20 cm firm, non-tender, intra-abdominal mass (see report).

Abdominal CT scan:
Lobulated soft tissue mass arising from retro-peritoneum, there was multiple hypodense liver lesions.

Which of the following is the most likely diagnosis?

**A. Liposarcoma

B. Lymphosarcoma

C. Germ cell tumour

D. Peripheral nerve tumour

Which of following is associated with the highest risk of malignant transformation?

**A. Villous adenoma

B. Tubular adenoma

C. Hyperplastic polyp

D. Tubulovillous adenoma

A 30-year-old presented with intermittent perianal pain associated with purulent discharge. Examination confirmed a low-lying perianal fistula with an external opening posteriorly close to the anal verge.

Which of the following is the most appropriate management?

A. MRI pelvis

B. Fistulogram

**C. Fistulotomy

D. Lateral sphincterotomy

A 30-year-old presented with a 3-day history of painful perianal swelling. Examination confirmed a 1x1 cm tender swelling close to the anal verge (see lab result).

Heart rate 84 /min
Temperature 37.2 °C

Test Result Normal Value
WBC 8 4.5-10.5 x 109/L

Which of the following is the most likely diagnosis?

A. Anal fissure

B. Prolapsed pile

C. Perianal abscess

**D. Perianal hematoma

A 14-year-old patient presented with a painless neck swelling. Examination confirmed a midline neck swelling below the hyoid bone that moves up and down with swallowing.

Which of the following is the most likely diagnosis?

A. Cystic hygroma

**B. Thyroglossal cyst

C. Midline dermoid cyst

D. Submental lymphadenopathy

A 42-year-old man complains of chest pain after being involved in a motor vehicle accident. Examination confirmed a patent airway, equal air entry on both sides of the chest, and distended neck veins.

Blood pressure 88/45 mmHg
Heart rate 110 /min
Respiratory rate 30 /min

Which of the following is the most likely diagnosis?

A. Flail chest

**B. Cardiac tamponade

C. Tension pneumothorax

D. Simple pneumothorax

A 25-year-old was involved in a head on motor vehicle accident. On examination, he was unresponsive, had distended neck veins, absent breath sound, and hyper-resonant percussion on the right side. His GCS score was 8.

Which of the following is the most urgent initial management?

A. Pericardiocentesis

B. Neck immobilization

**C. Endotracheal intubation

D. Needle right thoracocentesis

A 25-year-old man was brought to the Emergency Department after being involved in a motor vehicle accident. He opened his eyes spontaneously and responded appropriately to verbal commands. His respiration was shallow and he had left chest wall contusion. He was able to shrug his shoulders but unable to move his elbows or lower limbs.

Blood pressure 80/40 mmHg
Heart rate 70 /min
Respiratory rate 30 /min

Which of the following is the most likely cause of the hypotension?

A. Cardiac tamponade

B. Internal hemorrhage

**C. High spinal cord injury

D. Tension pneumothorax

A 50-year-old patient underwent a total thyroidectomy 5 hours ago. He has developed a large neck swelling associated with stridor and shortness of breath.

Blood pressure 165/90 mmHg

Heart rate 130 /min
Respiratory rate 24 /min
Temperature 37 °C

Which of the following is the most appropriate next step in management?

A. Tracheostomy

B. Close observation

C. Percutaneous drainage

**D. Bedside wound exploration

A 60-year-old man had a laparoscopic inguinal hernia repair 5 days ago. Today, he noticed a swelling at the wound area. Examination confirmed a swelling at the site of surgery that was not red, or hot, but mildly tender. There was no cough impulse.

Blood pressure 135/80 mmHg
Heart rate 80 /min
Respiratory rate 24 /min
Temperature 37.2 °C

Which of the following is the most likely diagnosis?

**A. Seroma

B. Hematoma

C. Recurrence

D. Wound infection

A 32-year-old man underwent a hemorrhoidectomy for a prolapsed pile. 5 hours later, he complained of severe supra-pubic pain and was unable to pass urine.

Which of the following is the most likely cause?

A. Dehydration

B. Urethral injury

**C. Inadequate analgesia

D. Post-operative hematoma

A 52-year-old woman presented with a recent rapid enlargement of a neck swelling associated with weight loss. She was diagnosed 25 years ago with Hashimotos thyroiditis.

Which of the following is the most likely diagnosis?

A. Hemorrhagic goiter

**B. Thyroid lymphoma

C. Papillary carcinoma

D. Sub-acute thyroiditis

A 56-year-old woman presented with generalized muscle and bone ache associated with abdominal cramps that is relieved by drinking cold milk (see lab results).

Test Result Normal Values
Calcium 2.85 2.15-2.62 mmol/L
Calcium ionised 1.9 1.1-1.3 mmol/L
Phosphate, inorganic 0.71 0.82-1.51 mmol/L
Parathyroid hormone (intact PTH levels) 5.5 1.1-5.3 pmol/L
25-Hydroxy Vitamin D3 (Women) 15 25-90 nmol/L

Which of the following is the most likely diagnosis?

A. Milk alkali syndrome

B. Idiopathic hypercalcemia

**C. Primary hyperparathyroidism

D. Secondary hyperparathyroidism

A 36-year-old man sustained a knife stab to the left side of his neck, below the cricoid cartilage (Zone I). Examination confirmed diffuse neck subcutaneous emphysema.

Blood pressure 110/70 mmHg
Heart rate 90 /min
Respiratory rate 20 /min
Temperature 36.6 °C

Which of the following is the most appropriate next step in management?

A. Neck exploration

B. Close observation

**C. CT of the neck and chest

D. Interventional radiology embolization

A 57-year-old hypertensive complained of non-specific lower abdominal pain. Hormonal studies for adrenal glands are within normal values. A CT scan was ordered (see report).

CT scan:
5 cm rounded hypodense left adrenal mass, described as lipid rich lesion.

Which of the following is the most appropriate management?

A. Adrenal MRI

**B. No intervention is indicated

C. Laparoscopic adrenalectomy

D. Image guided adrenal biopsy

A 37-year-old patient presented to the Emergency Department with a 2-day history of right upper quadrant abdominal pain associated with vomiting. Physical examination confirmed rebound tenderness at right hypochondrium (see lab result and report).

Blood pressure 125/70 mmHg
Heart rate 90 /min
Respiratory rate 20 /min
Temperature 38.8 °C

Test Result Normal Values
WBC 16.5 4.5-10.5 x 109/L

Ultrasound abdomen:
Edematous, thick gallbladder wall, pericholecystic fluid and multiple gallstones.

Which of the following is the most appropriate management?

**A. Laparoscopic cholecystectomy

B. Percutaneous cholecystostomy drain

C. Exploratory laparotomy with cholecystectomy

D. Endoscopic retrograde cholangiopancreatography

A 65-year-old man presented with a 3-month history of right upper quadrant abdominal pain, associated with a loss of appetite and weight loss. He has hepatitis C (see lab result and report).

Test Result Normal Value
Alpha fetoprotein 1160 0-40 ng/mL

CT scan abdomen:
Hypervascular lesion at the right lobe of the liver.

Which of the following is the most likely diagnosis?

A. Hamartoma

B. Cholangiocarcinoma

C. Hepatocellular adenoma

**D. Hepatocellular carcinoma

Which of the following is the most appropriate initial treatment for a liver amoebic abscess?

**A. Metronidazole

B. Open drainage

C. Percutaneous drainage

D. Percutaneous aspiration

A 37-year-old man presented to Emergency Department with a 10-day history of frequent vomiting. He was dehydrated, and his electrocardiogram showed flattening of the T-wave.

Which of the following is the most likely acid-base abnormality?

A. Metabolic acidosis

**B. Metabolic alkalosis

C. Compensated metabolic acidosis

D. Compensated metabolic alkalosis

A 32-year-old man presented with a 2-week history of frequent attacks of watery diarrhea. On examination, he was severely dehydrated.

Blood pressure 90/45 mmHg
Heart rate 130 /min
Respiratory rate 18 /min
Temperature 37.2 °C

Which of the following is the most likely acid-base abnormality?

**A. Metabolic acidosis

B. Metabolic alkalosis

C. Compensated metabolic acidosis

D. Compensated metabolic alkalosis

A 43-year-old woman who recovered from acute pancreatitis 5 weeks ago, presented with epigastric pain and postprandial vomiting. Physical examination confirmed tenderness and fullness in the epigastric region (see lab results and reort).

Blood pressure 127/70 mmHg
Heart rate 70 /min
Respiratory rate 16 /min
Temperature 36.6 °C

Test Result Normal Values
WBC 6.4 4.5-10.5 x 109/L
Amylase 430 24-151 IU/L

CT scan of abdomen:
Large cystic collection abutting the posterior wall of the stomach.

Which of the following is the most likely pancreatic pathology?

A. Cancer

B. Abscess

C. Necrosis

**D. Pseudocyst

Which of the following is most commonly cured by having a splenectomy?

A. β-thalassemia

B. a-thalassemia

C. Sickle cell trait

**D. Idiopathic thrombocytopenia purpura

A 25-year-old man is undergoing appendectomy for acute appendicitis, upon entering the peritoneal cavity; the surgeon could not find the appendix.

Which of the following is the most effective way to localize the appendix?

A. Following the terminal ileum

B. Palpating the ileocaecal valve

**C. Looking at the confluence of the taenia coli

D. Following the course of the right colic artery

A 29-year-old underwent a left lower parathyoidectomy for a primary hyperparathyroidism. 4 months later, she presented with generalized fatigue, muscle and bone ache and constipation (see lab results).

Test Result Normal Values
Calcium 2.78 2.15-2.62 mmol/L
Parathyroid hormone (intact PTH levels) 8 1.1-5.3 pmol/L

Which of the following is the most likely cause?

A. New adenoma

**B. Missed adenoma

C. Parathyroid cancer

D. Parathyroid hyperplasia

A 39-year-old woman presented with a 3-day history of central abdominal pain associated with nausea and vomiting for 1 day. She underwent a laparoscopic sleeve gastrectomy for obesity 6 years ago. Examination confirmed a dehydrated patient with abdominal distention, and exaggerated bowel sounds.

Which of the following is the most likely cause?

**A. Adhesions

B. Internal hernia

C. Intussusception

D. Incisional hernia

Which of the following is the most effective way to minimize excessive scar formation?

A. Pre-operative steroid

**B. Elimination of wound tension

C. Post-operative topical steroid

D. Closure with subcuticular suture

A patient underwent massive small bowel resection, and end with short bowel syndrome.

Which of the following is most important factor for small bowel adaptation?

A. Prolonged TPN

**B. Enteral feeding

C. Parietal cell vagotomy

D. Reversal of jejunal limb

A 62-year-old man presented with sudden onset epigastric pain radiating to the back of 6 hours' duration. He has ischemic heart disease, on plavix and aspirin. Examination confirmed an ill looking and dehydrated patient, with generalized abdominal tenderness and absent bowel sounds (see report).

Erect chest X-ray: Air under the left hemidiaphragm.

Which of the following is the most likely diagnosis?

A. Gall stone disease

B. Acute pancreatitis

**C. Perforated peptic ulcer

D. Gastric outlet obstruction

A 23-year-old man sustained a closed right mid-shaft tibia-fibula fracture in a motor vehicle accident. He was alert, awake, complained of severe pain and numbness in his right lower extremity. Examination confirmed non-palpable dorsalis pedis and posterior tibial pulses.

Blood pressure 120/70 mmHg
Heart rate 85 /min
Respiratory rate 20 /min
Temperature 36.6 °C

Which of the following is the most appropriate management?

**A. Fasciotomy

B. Angiography

C. Leg elevation and splint

D. Anticoagulation therapy

A 28-year-old woman was undergoing a laparoscopic cholecystectomy for gallstones. After creating pneumo-peritoneum and inserting the trocars, her heart rate was 40 beats/min.

Which of the following is the most likely cause?

A. Overhydration

B. Cold gas insufflation

C. Increased venous return

**D. Rapid stretching of parietal peritoneum

A 35-year-old patient was brought to a small primary care hospital with no surgical facility. The patient primary survey confirmed a right tension pneumothorax, and a compound right femoral fracture. After insertion of chest tube and immobilization of the right lower limb, the treating doctor decided to transfer the patient to a trauma center. During the transfer to the ambulance, the patient's oxygen saturation suddenly dropped and he developed tachycardia and tachypnea.

Which of the following is the most appropriate management?

A. Proceed with the transfer

B. Perform a rapid sequence intubation

C. Check the femoral deformity for bleeding

**D. Check the chest tube for place and patency

A 25-year-old woman presented with a right breast lump, which has been increasing in size over the past year. Physical examination confirmed a 10x12 cm firm, mobile mass involving the upper halve of the right breast with no palpable axillary lymph nodes (see report).

Core needle biopsy:
Malignant phyllodes tumour.

Which of the following is the most appropriate next step?

[✓ A. Wide local excision]

B. Whole body PET scan

**C. Contrast CT scan of chest

D. Immunohistochemistry for hormone receptors

A 47-year-old single woman with a positive family history of breast cancer presented with a lesion found on routine mammography at the lower outer quadrant of right breast (see report).

Image guided core needle biopsy:
Atypical ductal hyperplasia.

Which of the following is the most appropriate next step in management?

A. Simple mastectomy

**B. Wire localization excision

C. Chemoprevention therapy

D. 6-month follow-up mammography

A 65-year-old woman presented with sudden onset epigastric pain radiating to the back for the past 4 hours. She has ischemic heart disease with a coronary stent, and is taking plavix and aspirin. She was diagnosed with a perforated viscus and was taken for an exploratory laparotomy, which confirmed a perforated anterior duodenal ulcer.

Which of the following is the most appropriate management?

A. Partial gastrectomy

B. Gastrojejunostomy

**C. Closure with omental patch

D. Selective truncal vagotomy

A 38-year-old man sustained a pelvic fracture in a motor vehicle accident. There was blood per urethra (see report).

Retrograde urethrogram:
Retroperitoneal urethral injury.

Which of the following is the most appropriate next step?

A. Urethroscopy

B. Foley's catheter

C. Laparoscopic repair

**D. Suprapubic cystostomy

A 25-year-old patient sustained a blunt trauma to the right chest wall; there was paradoxical movement of the right side of the chest (see report).

Heart rate 96 /min
Respiratory rate 35 /min
Oxygen saturation 84 %

Chest X-ray:
Fracture 2nd through 4th ribs at more than 1 site

Which of the following is the most appropriate initial management?

A. Fluid resuscitation

**B. Assisted ventilation

C. Needle decompression

D. Thoracostomy chest tube

A 9-year-old child presented with blunt abdominal trauma (see lab result and report).

Blood pressure 110/70 mmHg
Heart rate 90 /min
Respiratory rate 22 /min
Temperature 36.6 °C

Test	Result	Normal Value
Hb	110	130-170 g/L (Male) 120-160 g/L (Female)

CT scan abdomen:
2 cm splenic laceration with perisplenic fluid.

Which of the following is the most appropriate management?

**A. Non-operative

B. Laparoscopic splenectomy

C. Laparotomy and splenorrhaphy

D. Transfuse 2 units of packed RBCs

A 28-year-old patient underwent resection of the terminal ileum for inflammatory bowel disease.

Which of the following nutrients is most important replace parenterally?

A. Iron

B. Zinc

C. Bile salts

**D. Vitamin B12

A 48-year-old woman presented with vague central abdominal pain (see reports).

Upper GI endoscopy:
5 cm rounded mass at the posterior wall of the stomach.

Biopsy:
Gastrointestinal stromal tumour.

Which of the following is the most appropriate management?

A. Total gastrectomy

**B. Wide local excision

C. Partial gastrectomy

D. Enucleation of the lesion

In compartment syndrome of lower limb, the earliest symptom is severe pain.

Which of the following best describes the mechanism of pain?

A. Skin hypoxia

B. Bone ischemia

**C. Nerve hypoxia

D. Muscle engorgement

Which of the following has the highest diagnostic value for inhalation injuries?

A. Tachypnea

B. Voice hoarseness

C. Low oxygen saturation

**D. Carbonaceous sputum

A 67-year-old man with ischemic heart disease presented with a 24-hour history of severe central abdominal pain. Physical examination was unremarkable (see lab results and report).

Test Result Normal Values
WBC 28 4.5-10.5 x 109/L
Amylase 600 24-151 IU/L
ABG HCO3- 17 22-28 mmol/L
ABG PCO2 4.2 4.7-6.0 kPa
pH 7.2 7.36-7.45
ABG PO2 14 10.6-14.2 kPa

Plain X-ray abdomen:
Dilated small bowel with a thickened wall.

Which of the following is the most likely diagnosis?

A. Acute pancreatitis

B. Intestinal obstruction

C. Perforated duodenal ulcer

**D. Mesenteric vascular occlusion

A young man presented with a chronic infection of both axillae. Examination confirmed the presence of multiple discharging sinuses.

Which of the following is the most likely source?

A. Hair follicles

B. Sebaceous glands

C. Eccrine sweat glands

**D. Apocrine sweat glands

A 50-year-old diabetic man presented with a 5-year history of an unhealed foot ulcer. Physical examination confirmed a 2x2 cm irregular shaped ulcer at the dorsal aspect of the first toe with pearly white discoloration. Biopsy of the ulcer reported as pseudoepitheliomatous hyperplasia.

Which of the following is the most appropriate management?

**A. Repeat biopsy

B. First toe amputation

C. Surgical debridement

D. Negative pressure dressing

A 32-year-old man had excision and primary closure of a skin contracture that was 5x3 cm on the forearm, 1 year ago. He presented with an overgrowth at the scar site that extend beyond the surgical scar margins, it started few weeks after the surgery and gradually increased in size.

Which of the following most accurately describes the lesion?

**A. Keloid

B. Scar fibrosis

C. Desmoid tumor

D. Scar hypertrophy

A 53-year-old man presented with sudden onset of severe right lower abdominal pain. On examination, there is a 3x3 cm right lower abdominal tender mass, which becomes more prominent with abdominal wall contraction. The patient has been on anticoagulants for atrial fibrillation for the past 4 years (see lab results and report).

Blood pressure 130/80 mmHg
Heart rate 84 /min
Respiratory rate 18 /min
Temperature 36.8 °C

Test Result Normal Values
INR 1.5 0.8-1.2
Prothrombin time 11 10-13 sec

CT scan:
3x3 cm enhancing mass at the right rectus muscle.

Which of the following is the most appropriate management?

A. Surgical excision

**B. Rest and analgesia

C. Fresh frozen plasma

D. Angiography with embolization

A 58-year-old woman presented with a right thigh mass that measured 5 x 6 cm (see report).

Core biopsy:
High grade sarcoma.

Which of the following is most appropriate staging image?

A. Bone scan

B. MRI abdomen

**C. Chest CT scan

D. Right thigh plain X-ray

Which of the following is the most appropriate biopsy for a limb sarcoma?

A. Incisional

B. Excisional

**C. Core needle

D. Fine needle aspiration

A 44-year-old man presented with a 6-month history of vague central abdominal pain.

CT scan of abdomen:
Presence of 20x10 cm retroperitoneal mass. No enlarged mesenteric or par aortic lymph nodes noted.

Which of the following is the most likely diagnosis?

A. Lymphoma

**B. Liposarcoma

C. Germ cell tumor

D. Metastatic testicular tumor

A 38-year-old multiparous woman presented with a 3-year history of abdominal bulging. Physical examination confirmed a diffuse smooth midline bulge on attempting to lean forward, with negative cough impulse (see report).

CT scan of abdomen:

No intra or extra abdominal mass lesion, and abdominal fascia is intact with no visible defect.

Which of the following is the most likely diagnosis?

A. Spigelian hernia

B. Incisional hernia

**C. Divercation of recti

D. Transveraslis muscle weakness

A 29-year-old man underwent left open inguinal hernia mesh repair 3 weeks ago. He presented today, with continuous intractable groin pain radiating to the left upper thigh and associated with persistent hyperesthesia. Physical examination excluded any recurrence or surgical site infection.

Which of the following is the most appropriate treatment?

A. Nerve block

B. Mesh stables removal

C. Systemic anti-inflammatory

**D. Neurectomy and mesh removal

A 35-year-old man post total thyroidectomy for multinodular goitre presented with persistent hypocalcaemia despite adequate replacement with oral and intravenous calcium.

Which of the following is the most appropriate next step in management?

A. Start diuretics

B. Start recombinant PTH

**C. Check serum magnesium level

D. IV bolus of potassium chloride

A 40-year-old woman underwent major bowel resection, and developed high output fistula.

Which of the following is the most expected consequences?

A. Fast loss of body fat

**B. Decrease total body weight

C. Slow loss of lean body mass

D. Expansion of the extracellular fluid

A patient with obstructive jaundice developed septic cholangitis.

Blood pressure 90/50 mmHg
Heart rate 105 /min
Respiratory rate 18 /min

Temperature 39.2 °C

Which of the following is most likely to be present?

A. Hypoglycaemia

B. Increased cardiac output

C. Generalized vasoconstriction

**D. Increased peripheral resistance

A 60-year-old that underwent a cardiac bypass, presented with central abdominal pain. Examination confirmed high cardiac output and cardiac index with low peripheral vascular resistance.

Blood pressure 90/60 mmHg
Heart rate 120 /min

Which of the following is the most likely diagnosis?

**A. Septic shock

B. Unstable angina

C. Cardiogenic shock

D. Hypovolemic shock

A patient in Intensive Care Unit who is post-major surgery received 15 units of blood. The patient developed bleeding from the incision; nasogastric tube and vein puncture sites.

Which of the following is the most likely cause?

A. Hypocalcaemia

**B. Thrombocytopenia

C. Transfusion reaction

D. Von Willebrands disease

A patient that has been in the Intensive Care Unit for 2 weeks is receiving parenteral nutrition (see results).

Test Result Normal Values
Platelets count 250 150-400 x 109/L
APTT 37 30-40 sec
INR 2 0.8-1.2
Total bilirubin 12 3.5-16.5 µmol/L

Which of the following is the most likely cause?

A. Disseminated intravascular coagulopathy

**B. Vitamin K deficiency

C. Factor VII deficiency

D. Chronic liver disease

An immunocompromised patient presented with an acute painful perineal swelling. Examination confirmed erythematous fluctuant area with crepitus over it and a foul-smelling discharge.

Which of the following is the most appropriate management?

A. Penicillin G infusion

**B. Surgical debridement

C. Aspiration of collection

D. Topical polymycin ointment

Which of the following is the most likely pathogen to infect a polytetrafluoroethylene vascular graft?

A. Klebsiella pneumonia

B. Staphylococcus aureus

C. Pseudomonas aeruginosa

**D. Staphylococcus epidermidis

An unstable trauma patient has confirmed multiple liver lacerations.

Which of the following is the most appropriate management?

A. Right hepatectomy

**B. Perihepatic packing

C. Right hepatic artery ligation

D. Individual ligation of the bleeding vessels

5 days' post-appendectomy, a patient developed diffuse abdominal distension, constipation, and absent bowel sounds.

Which of the following is the most appropriate next step in management?

A. Insert a rectal tube

**B. Check serum electrolyte level

C. Re-exploration of the abdomen

D. Abdominal computed tomography

Which of the following is the most definitive treatment for a post-renal transplant lymphocele?

A. Percutaneous aspiration

B. Observation and follow up

**C. Fenestration into the peritoneal cavity

D. Percutaneous injection of sclerotherapy

Which of the following is most likely to cause small bowel distention?

**A. Nitrous oxide

B. Muscle relaxants

C. Depolarizing agents

D. Esophageal intubation

A hypothyroid patient is scheduled to undergo an elective surgery.

Which of the following is the most appropriate management?

A. Perform surgery then start thyroxine

B. Start thyroxin and proceed with surgery

C. Perform surgery if clinical asymptomatic

**D. Delay surgery until the patient is euthyroid

A heavy smoker man is going for major surgical procedure

Which of the following is the most sensitive predictor of postoperative respiratory complications?

A. Chest X-ray

B. Bronchoscopy

**C. Lung function test

D. Arterial blood gases

A man presented with diarrhoea and persistent peptic ulcer refractory to proton pump inhibitors. Secretin stimulation test is positive.

Which of the following is the most likely diagnosis?

A. VIPoma

**B. Gastrinoma

C. Glucagonoma

D. Carcinoid tumor

A 50-year-old woman post-modified radical mastectomy, presented with numbness and a burning sensation on the inner aspect of upper arm.

Which of the following nerves is most likely injured?

A. Thorcodorsal

B. Long thoracic

C. Medial pectoral

**D. Intercostobrachial

Post laparoscopic cholecystectomy, transection of the common bile duct above the cystic duct is confirmed.

Which of the following is the most appropriate treatment?

**A. Hepatico-jejunostomy

B. Hepatico-duodenostomy

C. Choledocho-jejunostomy

D. Choledocho-duodenostomy

A 36-year-old was undergoing a caesarean section, just before closure the surgeon noticed profound bleeding coming from the upper abdomen.

Which of the following is the most likely source of bleeding?

**A. Splenic aneurysm

B. Liver hemangioma

C. Mesenteric aneurysm

D. Perforated peptic ulcer

Which of the following is the strongest indicator for surgery in Graves' disease?

A. Paediatric patient

**B. Presence of eye symptoms

C. Presence of anti-TSH antibodies

D. Failure of anti-thyroid medication

A young man received 4 litres of blood in the Emergency Department following a road traffic accident.

Which of the following is the most likely complication?

A. Hypokalaemia

B. Citrate toxicity

**C. Hypocalcaemia

D. Hyperalbunemia

A young man comes to the Emergency Department after being involved in a road traffic accident. A Focused assessment with sonography for trauma was ordered.

Which of the following is the most likely finding?

A. Pneumothorax

B. Vascular injury

C. Sub dural haematoma

**D. Intraperitoneal free fluid

A 45-year-old diabetic man presents with a non-healing wound, which he developed after incision and drainage for diabetic foot 2 months ago (see lab result).

Test Result Normal Value
HbA1c 6 5.8 - 6.2 %

Which of the following is the most likely etiology?

**A. Poor blood supply

B. Underlying malignancy

C. Peripheral neuropathy

D. Non-complaint with treatment

An elderly man is brought to the Emergency Department with an altered level of consciousness after he fell down the stairs (see report).

CT scan:
Suggestive extradural hematoma.

Which of the following arteries is most likely involved?

A. Basilar

B. Pontine

C. Anterior cerebral

**D. Middle meningeal

A 25-year-old man underwent a thyroidectomy due to multinodular goiter. Post-operatively, he was unable to maintain high pitch sound.

Which of the following nerves is most likely injured?

A. Vagus

**B. Inferior laryngeal

[✓ C. Superior laryngeal]

D. Recurrent laryngeal

A 42-year-old woman complains of left-sided chest and abdominal pain that is worse on inspiration. She underwent a splenectomy a few days ago. Examination confirms a decreased air entry at the left lung base, dullness to percussion and left upper quadrant tenderness.

Temperature 38.6 °C

Which of the following is the most likely diagnosis?

A. Gastric stasis

**B. Subphrenic abscess

C. Lower lobe pneumonia

D. Overwhelming post-splenectomy sepsis

A 40-year-old diabetic patient with good glycemic control is admitted electively for an inguinal hernia repair.

What is the most accurate American society of Anaesthesiologist physical status class?

A. I

**B. II

C. III

D. IV

A 20-year-old woman with no past medical history, is admitted with a perforated appendix and is in septic shock. On arrival, she was intubated. She requires high inotropic support to maintain minimum recordable blood pressure.

What is the most accurate American society of Anaesthesiologist physical status class?

A. II

B. III

C. IV

**D. V

A 40-year-old man presents with an advanced colonic malignancy.

What is the most likely site of metastasis?

A. Lung

**B. Liver

C. Thyroid

D. Prostrate

A young man is hypoxic 24 hours after major upper abdominal surgery.

Which of the following is the most likely cause?

A. Pneumonia

**B. Basal atelectasis

C. Pulmonary embolism

D. Intra-abdominal bleeding

An elderly diabetic underwent major upper abdominal surgery 72 hours ago.

Temperature 38 °C
Oxygen saturation 87 %

Which of the following is the most likely cause?

**A. Pneumonia

B. Basal atelectasis

C. Pulmonary embolism

D. Sub-phrenic collection

An elderly woman developed hypoxia 24 hours after major pelvic surgery for ovarian cancer.

Which of the following is the most likely cause?

A. Pneumonia

B. Pelvic abscess

C. Basal atelectasis

**D. Pulmonary embolism

A 30-year-old woman sustained a burn from an oven grill. 8 days later, she noticed greenish discharge in the wound.

Which of the following is the most likely cause?

A. E.coli

B. Klebsiella

**C. Pseudomonas

D. Streptococcus pyogenes

A 55-year-old butcher accidentally cut himself at work. Later that night, he noticed some red lines radiating from the wound.

Which of the following is the most likely cause?

A. Brucella

B. Klebsiella

C. Pseudomonas

**D. Streptococcus pyogenes

Where is the most common primary location of basal cell carcinoma?

**A. Face

B. Breast

C. Lower limb

D. Upper limb

A young man presents with a lump on the right mid-thigh. On examination, the overlying skin is normal, the mass is soft, movable with positive fluctuation test.

Which of the following is the most likely diagnosis?

**A. Lipoma

B. Sarcoma

C. Aneurysm

D. Sebaceous cyst

A 40-year-old is admitted with a 3-day history of diffuse abdominal pain. On examination, there is diffuse abdominal tenderness along with Grey Turners sign.

Which of the following is the most likely diagnosis?

A. Acute porphyria

B. Mesenteric ischemia

**C. Necrotizing pancreatitis

D. Ruptured aortic aneurysm

An elderly man presents for follow-up after he sustained road traffic accident 3 days back. On examination, "Battle Sign" is noted.

Which of the following is the most likely cause?

A. Le Forte fracture

B. Mandibular fracture

**C. Fracture base of skull

D. Fracture middle cranial fossa

A 50 year-old man becomes disoriented on the 4th post-operative day of abdominal aortic aneurysm repair. Vital signs remain outside of normal limits despite attempts at fluid resuscitation. He has passed a negligible volume of urine since he was catheterized one hour ago. His peripheries are warm to the touch.

Blood pressure 90/40 mmHg
Heart rate 140 /min
Respiratory rate 36 /min
Temperature 36.6 °C

What type of shock is the most likely diagnosis?

**A. Septic

B. Cardiogenic

C. Haemorrhagic

D. Anaphylactic

A 20-year-old man was hit by a car 2 hours ago. On examination, his abdomen is distended, tense and tender.

Blood pressure 100/70 mmHg
Heart rate 120 /min
Respiratory rate 30 /min
Temperature 35 °C
Oxygen saturation 90 %

What type of shock is the most likely diagnosis?

A. Spinal

B. Cardiogenic

**C. Haemorrhagic

D. Anaphylactic

A 30-year-old man was hit by a truck 4 hours ago. On examination, he has raised jugular venous pressure and diminished heart sounds.

Blood pressure 90/60 mmHg
Heart rate 140 /min
Respiratory rate 32 /min
Temperature 36.6 °C
Oxygen saturation 85 %

What type of shock is the most likely diagnosis?

A. Septic

**B. Cardiogenic

C. Haemorrhagic

D. Anaphylactic

A 20-year-old patient complains of painless fresh bleeding post defecation over the last 6 months.

Which of the following is the most likely diagnosis?

A. Anal fissure

**B. Haemorrhoids

C. Perianal fistula

D. Perianal abscess

A 40-year-old diabetic patient complains of a painful perianal swelling with fever for the last 3 days (see lab results).

Blood pressure 110/70 mmHg
Heart rate 110 /min
Respiratory rate 20 /min
Temperature 38 °C

Test Result Normal Values
Hb 135 130-170 g/L (Male)
120-160 g/L (Female)
WBC 16 4.5-10.5 x 109/L
Neutrophils 80 40-60%
Random Glucose 6.5 3.9-5.5 mmol/L

Which of the following is the most likely diagnosis?

A. Anal fissure

B. Haemorrhoids

**C. Perianal abscess

D. Thrombosed piles

A 20-year-old primi-gravida complains of severe perianal pain post defection along with fresh bleeding per rectum for the last 4 days. She describes the pain to be sharp and persists long after passage of stool. She denies any history of associated swelling or fever.

Which of the following is the most likely diagnosis?

**A. Anal fissure

B. Haemorrhoids

C. Perianal abscess

D. Thrombosed piles

A 50-year-old hypertensive diabetic complains of a 2-month history of perianal swelling with discharge. 2 months ago, he noticed a small swelling, which ruptured.

Blood pressure 160/100 mmHg
Heart rate 90 /min
Respiratory rate 18 /min
Temperature 36.6 °C

Which of the following is the most likely diagnosis?

A. Anal fissure

**B. Perianal fistula

C. Perianal abscess

D. Thrombosed piles

A 30-year-old multigravida mother complains of severe perianal pain, swelling and absolute constipation for the last 2 days. On examination, swollen anal cushions, which are irreducible and tender to touch, are noted.

Blood pressure 120/90 mmHg
Heart rate 110 /min
Respiratory rate 20 /min
Temperature 37 °C

Which of the following is the most likely diagnosis?

A. Anal fissure

B. Anal carcinoma

C. Perianal abscess

**D. Thrombosed piles

A 36-year-old man presents with a 2-day history of constipation. On examination, he looks nervous and severe pain was experienced during parting of the perianal region. Linear cracks were noted at both at 6 and 12 O'clock positions.

Which of the following is the most likely diagnosis?

**A. Anal fissure

B. Perianal fistula

C. Solitary rectal ulcer

D. Intersphincteric abscess

A 65-year-old diabetic presents with a 4-day history of severe perianal pain with high grade fever. On examination, there is no external swelling. On digital rectal examination, there is posterior bogginess and tenderness with slight purulent discharge coming from the anal canal.

Temperature 38 °C

Which of the following is the most likely diagnosis?

A. Perianal fistula

B. Ulcerative colitis

**C. Intersphincteric abscess

D. Condylomata acuminate

A 30 year-old patient complains of a 2-year history of perianal itching and discomfort. On perianal examination, there are cauliflower-like multiple lesions clustered together. They are pink to grey in colour and tender to touch.

Which of the following is the most likely diagnosis?

A. Anal carcinoma

B. Rectal carcinoma

C. Fibroepithelial polyps

**D. Condylomata acuminate

A 65-year-old complains of a 6-month change in bowel habits. On examination, he is pale, thin and emaciated. His abdomen is slightly distended. On digital rectal examination, there is a lesion 2 cm from the anal verge. On proctoscopy, the lesion appears to be cauliflower like mass, which is friable to touch.

Which of the following is the most likely diagnosis?

A. Anal carcinoma

**B. Rectal carcinoma

C. Fibroepithelial polyps

D. Condylomata acuminate

A 25-year-old presents with a 2-week history of severe perianal pain and an inability to pass stool for the last 2 days. History confirmed a haemorrhoidectomy 12-mothns ago. On examination, he is uneasy and in distress. On rectal examination, finger could not be passed beyond the anal verge due to severe pain.

Blood pressure 110/70 mmHg
Heart rate 120 /min
Respiratory rate 18 /min

Temperature 36.6 °C

Which of the following is the most likely diagnosis?

A. Anal fissure

**B. Anal stenosis

C. Anal carcinoma

D. Intersphincteric abscess

A 20 year-old weight-lifter complains of a 2-day history of bilious vomiting and abdominal distention. Examination revealed swelling in the left inguinal region, which is firm and tender (see report).

Blood pressure 100/70 mmHg
Heart rate 116 /min
Respiratory rate 20 /min
Temperature 36.6 °C

X-ray abdomen:
Multiple air fluid levels with no air in the large bowel.

What type of hernia is the most likely diagnosis?

**A. Obstructed

B. Irreducible

C. Incarcerated

D. Strangulated

A 25-year-old man was brought to the Emergency Department with a penetrating chest injury 45 minutes ago. He was initially fine in the ambulance but then collapsed. Emergency response personal started resuscitation. On arrival, he had a weak thread pulse, raised JVP and bilateral equal breath sounds.

Blood pressure 90/60 mmHg
Heart rate 140 /min
Respiratory rate 30 /min
Temperature 36.6 °C
Oxygen saturation 85 %

Which of the following is the most likely diagnosis?

A. Flail segment

B. Pneumothorax

**C. Cardiac tamponade

D. Pulmonary contusions

A young man was brought to the Emergency Department after he was hit in the chest while playing football. On examination, he was dyspnoeic and drowsy with GCS 11/15. Tracheal shifting to the left and raised JVP were noted. He has barely audible breath sounds on the right side.

Blood pressure 80/50 mmHg
Heart rate 130 /min
Respiratory rate 32 /min
Temperature 36.6 °C
Oxygen saturation 90 %

Which of the following is the most likely diagnosis?

A. Flail segment

B. Cardiac tamponade

C. Pulmonary contusions

**D. Tension Pneumothorax

A 70-year-old alcoholic complains of a 6-month history of gradual progressive dysphagia and weight loss. On examination, he is cachectic and pale. His abdomen is soft and non-tender. Digital rectal examination confirms altered coloured stool in the rectum (see lab results).

Blood pressure 110/70 mmHg
Heart rate 110 /min
Respiratory rate 18 /min
Temperature 36.6 °C

Test Result Normal Values
WBC 9.5 4.5-10.5 x 109/L
Hb 90 130 - 170 g/L
Urea 8 2.75-7.4 mmol/L
Creatinine 120 44-115 µmol/L

Which of the following is the most likely diagnosis?

A. Pancreatitis

**B. Oesophageal cancer

C. Acid peptic disease

D. Duodenal perforation

A 40-year-old man, alcoholic and smoker is brought to the Emergency Department with a 4-hour history of severe upper abdominal pain radiating to the back. On examination, his abdomen is distended, tense, and tender. Digital Rectal examination confirms a collapsed empty (see image).

Blood pressure 100/70 mmHg
Heart rate 110 /min

Respiratory rate 20 /min
Temperature 37 °C

Which of the following is the most likely diagnosis?

A. Pancreatitis

B. Pneumothorax

**C. Duodenal perforation

D. Acalculous cholecystitis

A 55-year-old man was admitted with a 2-year history of recurrent upper abdominal pain attacks. History confirmed a recurrent colicky pain aggravated my morphine or its analogues (see lab results and report).

Blood pressure 110/70 mmHg
Heart rate 96 /min
Respiratory rate 18 /min
Temperature 36.6 °C

Test Result Normal Values
Indirect bilirubin 5 3.2-12.1 µmol/L
Direct bilirubin 10 1.5-6.5 µmol/L
Total bilirubin 15 3.5-16.5 µmol/L
Alkaline phosphatase 250 39-117 IU/L
Amylase 150 24-151 IU/L

Ultrasound abdomen:
Prominent common bile duct along with dilated minimal dilatation of intrahepatic ducts.

Which of the following is the most likely diagnosis?

A. Pancreatitis

B. Biliary colic

C. Cholecystitis

**D. Sphincter of oddi dysfunction

A 20-year-old woman recently had an infant complains that she has been having recurrent episodes of upper abdominal pain since the third trimester. The pain radiates to her back and is associated with nausea. On examination, her abdomen is soft and non-tender. On deep palpation, there is a mass measuring 8 x 8 cm in the epigastric region, which appears to be non-pulsatile and non-tender (see lab result).

Blood pressure 110/70 mmHg
Heart rate 76 /min
Respiratory rate 18 /min
Temperature 36.6 °C

Test Result Normal Value
Lipase 250 0-160 IU/L

Which of the following is the most likely diagnosis?

A. Hydated cyst

B. Gall bladder mucocele

**C. Pancreatitc Pseudocyst

D. Gastrointestinal stromal tumour

A 30 year-old patient presents to the Emergency Department with 8-hour history of severe upper abdominal pain that is not relieved by oral medications. History confirmed recurrent similar events over the last year that was relieved by anti-spasmodic and anti-inflammatory drugs. Examination revealed jaundiced patient, with soft abdomen and marked tenderness in the right hypochondriac region (see lab results and report).

Blood pressure 110/70 mmHg
Heart rate 110 /min
Respiratory rate 18 /min
Temperature 37.9 °C

Test Result Normal Values
WBC 16 4.5-10.5 x 109/L
Indirect bilirubin 5 3.2-12.1 μmol/L
Direct bilirubin 15 1.5-6.5 μmol/L
Total bilirubin 20 3.5-16.5 μmol/L
Alkaline phosphatase 400 39-117 IU/L
Amylase 115 24-151 IU/L

Ultrasound:
Minimal CBD of 1.1 cm with dilatation of intrahepatic ducts.

Which of the following is the most likely diagnosis?

A. Hepatitis

**B. Cholangitis

C. Pancreatitis

D. Cholecystitis

A 45-year-old patient complains of recurrent episodes of upper abdominal pain for the past 2 week with fever. On examination, the patient is jaundiced, abdomen is soft with marked tenderness all over the abdomen (see lab results and report).

Blood pressure 90/60 mmHg
Heart rate 130 /min
Respiratory rate 18 /min
Temperature 38 °C

Test Result Normal Values
Indirect bilirubin 5 3.2-12.1 µmol/L
Direct bilirubin 20 1.5-6.5 µmol/L
Total bilirubin 25 3.5-16.5 µmol/L
Alkaline phosphatase 450 39-117 IU/L
Amylase 1400 24-151 IU/L

Ultrasound:
CBD of 1.4 cm with dilatation of intrahepatic ducts.

Which of the following is the most likely diagnosis?

A. Hepatitis

B. Cholangitis

**C. Pancreatitis

D. Acute Cholecystitis

A 20-year-old woman presents with a lump in the right lower quadrant of her breast that has been present for the last 2 years. The lump was initially small but over the past 6 months has constantly been growing in size. On examination, the mass measures 8 x 10 cm, is mobile and not attached to underlying muscles. Overlying skin is thinned out due to pressure effect of the mass. There are no signs of surrounding inflammation or infection.

Which of the following is the most likely diagnosis?

A. Mastitis

**B. Phyllodes

C. Galactocele

D. Fibroadenoma

A 30-year-old patient was brought to the Emergency Department after being shot in the chest 1 hour ago. A tube thoracostomy on the left side was done for a pneumothorax. After 15 minutes, the underwater seal bottle is filled with 2 litres of blood.

Blood pressure 90/60 mmHg
Heart rate 120 /min
Respiratory rate 22 /min
Temperature 36.6 °C
Oxygen saturation 90 %

Which of the following is the most appropriate management?

**A. Thoractomy

B. CT scan chest

C. Tube thoracostomy

D. Angiographic embolization

A 5-year-old child is brought to the Emergency Department after being stabbed in the right lower chest. His abdomen is distended. A focused abdominal sonogram for trauma is suggestive of free fluid in the abdomen.

Blood pressure 100/80 mmHg
Heart rate 110 /min
Respiratory rate 20 /min
Temperature 36.6 °C
Oxygen saturation 90 %

Which of the following is the most appropriate management?

A. Thoracotomy

B. Tube thoracostomy

**C. Exploratory laparotomy

D. Angiographic embolization

A 66-year-old man recently underwent an anterior resection of the rectum and is making a slow recovery. He complains that in the middle of the night he has pain in the left calf. On examination, he has a tender left calf, which is slightly swollen and red (see report).

Blood pressure 110/70 mmHg
Heart rate 110 /min
Respiratory rate 18 /min
Temperature 36.6 °C
Oxygen saturation 90 %

Ultrasound Doppler:
Deep vein thrombosis in the left popliteal region extending up to the common femoral junction.

Which of the following is the most appropriate management?

A. Heparin

B. Warfarin

C. IVC filter

**D. Enoxaparin

A 12-year-old boy presents to the Emergency Department after a fall that led to a supra-condylar fracture. Presently his distal pulses are not palpable.

Blood pressure 110/70 mmHg
Heart rate 120 /min

Which of the following is the most appropriate management?

A. Early K-wire

B. Hand elevation

C. Watchful waiting

**D. Surgical exploration

A 5-month-old baby was admitted with an inability to tolerate food and non-bilious vomiting over the past 2-days. On examination, he appears to be dehydrated. There is an olive shaped mass palpable in the epigastric region measuring 2 x 2 cm.

Which of the following is the most appropriate management?

**A. Pyloromyotomy

B. Balloon dilatation

C. Gastrojejunostomy

D. Resection anastomosis

A 45-year-old man complains of pain the bilateral groin swelling over the last 6-months. On examination, there are small bilateral inguino-scrotal swellings. Cough impulse is positive and his abdomen is soft and non-tender.

Blood pressure 110/70 mmHg
Heart rate 76 /min
Respiratory rate 18 /min
Temperature 36.6 °C
Oxygen saturation 95 %
BMI 30 kg/m2

Which of the following is the most appropriate management?

A. Herniotomy

B. Lichtenstein repair

**C. Laparoscopic mesh repair

D. Biological mesh placement

A 5-month-old baby is presented with bilateral groin swelling that has been present since birth. On examination, there are small bilateral inguino-scrotal swellings, which become prominent when the child cries. His abdomen is soft and non-tender.

Which of the following is the most appropriate management?

**A. Herniotomy

B. Lichtenstein repair

C. Laparoscopic mesh repair

D. Biological mesh placement

A 42-year-old woman complains of recurrent episodes of upper abdominal pain over the past 2 weeks with associated high grade fever. On examination, she looks icteric. Her abdomen is soft with marked tenderness in the right hypochondriac region (see lab results).

Blood pressure 110/70 mmHg
Heart rate 120 /min
Respiratory rate 18 /min
Temperature 38 °C

Test Result Normal Values
Indirect bilirubin 10 3.2-12.1 µmol/L
Direct bilirubin 20 1.5-6.5 µmol/L
Total bilirubin 30 3.5-16.5 µmol/L
Alkaline phosphatase 250 39-117 IU/L
Amylase 100 24-151 IU/L
WBC 20 4.5-10.5 x 109/L

Which of the following is the most appropriate management?

A. CBD exploration

B. Laparoscopic cholecystectomy

C. Percutaneous cholecystostomy

**D. Endoscopic retrograde cholangiopancreatography

A 45-year-old patient complains of perianal swelling, fresh bleeding per-rectum and weight loss over the last 3 months. On examination, there is a mass 1 cm from the anal verge. She has no obstructive symptoms (see report).

Blood pressure 110/70 mmHg
Heart rate 96 /min
Respiratory rate 18 /min
Temperature 36.6 °C

Biopsy:
Adenocarcinoma.

MRI abdomen:
Localized lesion with cranio-caudal extension of 3 cm with associated lymphadenopathy.

CT scan chest:
No evidence of metastasis.

Which of the following is the most appropriate treatment?

A. Diversion colostomy

B. Low anterior resection

**C. Concurrent chemoradiation

D. Abdominoperineal resection

A 30-year-old woman presents with a mass in the right upper quadrant of her breast for the last 4 years. According to the patient, the mass was initially small but over the past 2 years, it has been constantly growing in size. On examination, the mass measures 15 x 15 cm, is mobile and not attached to underlying muscle. Overlying skin is thinned out due to the mass effect (see report).

Ultrasound breast:
Solid mass containing single or multiple, round or cleft like cystic spaces and demonstrating posterior acoustic enhancement.

Which of the following is the most appropriate management?

A. Radiation therapy

**B. Simple mastectomy

C. Neoadjuvant chemotherapy

D. Modified radical mastectomy

A young woman underwent a laparoscopic cholecystectomy for symptomatic gallstones 1 day ago. Post-operatively, there are decreased breath sounds in the lower chest on auscultation.

Blood pressure 110/70 mmHg
Heart rate 110 /min
Respiratory rate 18 /min
Temperature 36.6 °C
Oxygen saturation 90 %

Which of the following is the most appropriate management?

A. IV antibiotics

B. Bronchodilators

C. Ultrasound chest

**D. Incentive spirometry

A 25-year-old man underwent an open appendectomy for a perforated appendix. He was discharged on the 2nd post-operative day uneventfully. He returned on the 8th post-operative day complaining of pain and redness around the wound site. On examination, there is purulent discharge from the wound site. His abdomen is soft with tender over the wound site. Digital rectal examination was unremarkable.

Blood pressure 110/70 mmHg
Heart rate 110 /min
Respiratory rate 18 /min
Temperature 38 °C

Which of the following is the most appropriate management?

A. IV antibiotics

**B. Open drainage

C. CT scan abdomen

D. Exploratory laparotomy

A 55-year-old man underwent an open appendectomy for a perforated appendix. He presented to the Emergency Department on the 6th post-operative day complaining of severe abdominal pain, distension and an inability to pass stool. On examination, there is feculent discharge from the wound site with signs of peritonitis (see lab results and report).

Blood pressure 110/70 mmHg
Heart rate 120 /min
Respiratory rate 18 /min
Temperature 38 °C
Oxygen saturation 95 %

Test Result Normal Values
ABG HCO3- 10 22-28 mmol/L
ABG PCO2 4.8 4.7-6.0 kPa
pH 7.25 7.36-7.45
ABG PO2 11 10.6-14.2 kPa
Base access -12 -2 to 2 mmol/L

Ultrasound abdomen:
Moderate ascites with echoes and septations.

Which of the following is the most appropriate management?

A. Wound care

B. IV antibiotics

C. CT scan abdomen

**D. Exploratory laparotomy

A 45-year-old diabetic man underwent a laparotomy for a diverticular perforation. On the 4th post-operative day, he developed a high-grade fever with chills and multiple spikes. On examination, his wound is healthy and his chest is clear to auscultation. On Digital rectal examination, there is bogginess anteriorly.

Blood pressure 110/70 mmHg
Heart rate 120 /min
Respiratory rate 18 /min
Temperature 38 °C

Which of the following is the most appropriate treatment?

A. IV antibiotics

B. IV paracetamol

C. Abdominal cavity washout

**D. Ultrasound guided drainage

A 55-year-old man with no known co-morbidities underwent a Graham's patch repair for a perforated duodenal ulcer 10 days ago. On examination, his abdomen is soft and non-tender. On auscultation, there is decreased breath sounds on the right lower chest. Blood cultures obtained from the central and periphery line of the patient are growing gram positive cocci.

Blood pressure 110/70 mmHg
Heart rate 120 /min
Respiratory rate 18 /min
Temperature 38 °C

Which of the following is the most appropriate treatment?

A. Chest physiotherapy

**B. Removal of central Line

C. Abdominal cavity washout

D. Ultrasound guided drainage

A patient that underwent a cholecystectomy earlier has pyrexia with temperature spikes. On examination, the wound is healthy. His abdomen is soft with mild tenderness in the right hypochondriac region. There is decreased air entry on the right side of the chest on auscultation.

Blood pressure 110/70 mmHg
Heart rate 120 /min
Respiratory rate 20 /min
Temperature 38.5 °C

Ultrasound:
collection of 10 x 15 cm in the gall bladder fossa.

Which of the following is the most appropriate management?

A. IV antibiotics

B. Chest physiotherapy

**C. Ultrasound guided drainage

D. Endoscopic retrograde cholangiopancreatography

A 25-year-old underwent an open appendectomy for a perforated appendix 8 days ago and returns for follow-up. On examination, there is a seroma formation at the wound site, which is draining freely through a gaping wound. There are no signs of surrounding inflammation.

Blood pressure 110/70 mmHg
Heart rate 76 /min
Respiratory rate 18 /min
Temperature 36.6 °C

Which of the following is the most appropriate treatment?

A. Antibiotics

B. CT scan abdomen

**C. Regular wound dressings

D. Ultrasound guided drainage

Which of the following is most likely involved in neuro-hormonal stress response?

A. Androgen

B. Parathyroid

C. Thyroid stimulating

**D. Corticotrophin releasing

A 30-year-old woman underwent an exploratory laparotomy for a perforated duodenal ulcer. Post-operatively she developed septic shock syndrome.

Which of the following is the most common physiological response?

A. Hypokalaemia

B. Respiratory acidosis

**C. Cellular anaerobic respiration

D. Increase glomerular filtration rate

A 65-year-old patient is intubated in the Intensive Care Unit because of septic shock.

Which of the following will best indicate adequate systemic perfusion?

A. Cardiac index

B. Central venous pressure

**C. Mixed venous oxygen saturation

D. Pulmonary capillary wedge pressure

A 55-year-old is scheduled to undergo laparoscopic cholecystectomy.

Which of the following is the most appropriate prophylactic antibiotic regimen?

A. Regular dose for 5 days

B. 3 doses postoperatively

**C. Single dose with anaesthesia induction

D. Single dose 1 hour before skin incision

A 33-year-old man was brought to the Emergency Department after a high velocity trauma. He had distended neck veins and markedly decrease breath sounds on the right side.

Heart rate 105 /min
Blood Pressure 90/60 mmHg
Oxygen saturation 85%

Which of the following is the most likely cause?

A. Flail chest

B. Right hemothorax

C. Pericardial tamponade

**D. Right tension pneumothorax

A 50-year-old man presented to the Emergency Department following a fall from 20 feet, on arrival he has a Glasgow Coma Scale of 8 with no external sign of injury.

Mean arterial pressure 65 mmHg
Intracranial pressure 15 mmHg.

Which of the following is the most likely cerebral perfusion pressure in mmHg?

A. 40

**B. 50

C. 60

D. 70

A 35-year-old woman presented with partial thickness burns on her arms and leg due to hot water spillage 1 day ago, with wound edema and congestion.

Which of the following is the most likely responsible mediator?

A. Serotonin

B. Bradykinin

**C. Prostaglandin I2

D. Thromboxane A2

A 55 year-old diabetic woman with steroid dependent bronchial asthma underwent a right hemicolectomy for carcinoma of the caecum. Postoperatively she was kept in the Intensive Care Unit (see lab results).

Blood pressure 80/40 mmHg
Heart rate 140 /min
Respiratory rate 25 /min
Temperature 35.1 °C

Oxygen saturation 95 %

Test Result Normal Values
Sodium 131 134-146 mmol/L
Potassium 6.0 3.5-5.1 mmol/L
Bicarbonate 18 21-28 mmol/L
Random Glucose 2.3 3.9-5.5 mmol/L

Which of the following is the most likely clinical condition?

A. Thyroid storm

**B. Adrenal insufficiency

C. Diabetic ketoacidosis

D. Septic shock syndrome

A 35-year-old man sustained a right tibia fracture in a road traffic accident. He is being managed by closed reduction with cast but he develops swelling in his toes and pain.

Which of the following is the earliest alarming sign?

[✓ A. Pain]

B. Foot drop

C. Diminished pulses

**D. Paraesthesia between toes

A 35-year-old woman is concerned about her mother history of invasive breast cancer and sister with ovarian cancer. Her clinical examination was unremarkable.

Which of the following is the most appropriate breast cancer screening?

A. Ultrasound

**B. Mammogram

C. BRCA gene test

D. Breast self-examination

A 55-year-old man presents to the Emergency Department with severe abdominal pain and absolute constipation for 2 days associated with nausea and vomiting. He has a significant past history of constipation requiring use of laxatives. On examination, his abdomen is distended, tense, tender all over with a palpable mass in the left lumbar and hypochondrium (see image).

Which of the following is the most likely site of volvulus?

A. Caecum

B. Rectum

**C. Sigmoid colon

D. Transverse colon

A 19-year-old married woman complains of a 6-hour history of right lower abdominal pain and nausea. On Examination, she is tender in her right lower abdomen with rebound tenderness. Her LMP was 2 weeks back (see lab results).

Blood pressure 110/70 mmHg
Heart rate 100 /min
Temperature 36.4 °C

Test	Result	Normal Values
Hb	105	120-160 g/L
HCT	0.31	0.37-0.48
WBC	9.8	4.5-10.5 x 109/L

Which of the following is the most likely diagnosis?

A. Ureterocele

**B. Ovarian torsion

C. Honeymoon cystitis

D. Pelvic inflammatory disease

A 75-year-old diabetic hypertensive man underwent an exploratory laparotomy for a perforated duodenal ulcer. Postoperatively, he was kept in Intensive Care with ventilator support. His cardiac output is 2.5L/min and pulmonary capillary wedge pressure is elevated to 20 mm Hg.

Blood pressure 80/50 mmHg
Heart rate 115 /min
Respiratory rate 22 /min
Temperature 36.6 °C
Oxygen saturation 91 %

Which of the following is the most likely type of shock?

A. Septic

**B. Cardiogenic

C. Hypovolemic

D. Anaphylactic

A 13-year-old boy presents for elective surgery. He has a significant past history of bleeding tendency and has contracture of right knee and hemarthrosis.

Which of the following is the most likely underlying clinical disorder?

**A. Haemophilia

B. Aplastic anaemia

C. Wilsons disease

D. Henoch-schonlein purpura

A 15-year-old girl underwent an exploratory laparotomy for a perforated appendix. On 7th postoperative day she remained febrile and developed respiratory distress requiring mechanical ventilation. On examination her, abdomen was distended, tense, and tender. A contrast enhanced computed tomography was ordered. Post-CT she developed bleeding from her mouth, trachea and I/V puncture site.

Blood pressure 90/50 mmHg
Heart rate 121 /min
Respiratory rate 25 /min
Temperature 35.6 °C

Which of the following is the most likely diagnosis?

A. Haemophilia

B. Anaphylactic contrast reaction

C. Idiopathic thrombocytopenic purpura

**D. Disseminated intravascular coagulation

A 55-year-old woman complains of abdominal pain, distention and bilious vomiting. On examination she is pale, dehydrated, abdomen is soft, distended, with hyper dynamic gut sounds. She was diagnosed with gallstone disease 10 years ago (see report).

Blood pressure 140/90 mmHg
Heart rate 120 /min
Temp 36.7

Test Result Normal Values
Hb 100 120-160 g/L
Platelets count 125 150-400 x 109/L
WBC 18.6 4.5-10.5 x 109/L

CT scan:
Air in the biliary system.

Which of the following is the most likely diagnosis?

A. Cholengitis

B. Pancreatitis

C. Cholecystitis

**D. Gall stone ilieus

A 55-year-old hypertensive diabetic with ischemic heart disease woman presented with sudden onset of left-sided lower abdominal pain associated with vomiting for 6 hours. On examination, she is pale, dehydrated and flushed. Peripheral pulses are regularly irregular. Her abdomen is distended, tender all over (see lab results).

Blood pressure 170/100 mmHg
Heart rate 121 /min
Respiratory rate 20 /min

Test Result Normal Values
ABG HCO3- 13 22-28 mmol/L
ABG PCO2 5.2 4.7-6.0 kPa
pH 7.23 7.36-7.45
ABG PO2 10.8 10.6-14.2 kPa

Which of the following is the most likely diagnosis?

A. Diverticulitis

B. Ulcerative colitis

C. Perforated viscus

**D. Mesenteric ischemia

A 65-year-old man diabetic complains of intermittent claudication of his right leg, the foot and sole are cold and numb. He underwent right lower limb angiography showing diffuse disease. 2 days later he developed a painful swelling in his right groin, On examination, there is a firm swelling below the inguinal crease, partially mobile, irreducible, nonexpansile, and tender with transmissible pulse.

Which of the following is the most likely diagnosis?

A. Psoas abscess

B. Saphena varix

C. Femoral hernia

**D. Pseudoaneurysm

A 33-year-old woman underwent surgery for her right leg varicose veins. On the 2nd postoperative day, she complained of pain and paraesthesia on the medial aspect of her leg and foot. On examination, there is sensory loss of fine touch and pain in her right leg and foot, but no motor loss. Wounds are healthy.

Which of the following nerves is most likely injured?

A. Sciatic

B. Femoral

C. Obturator

**D. Saphenous

A 25-year-old complains of an inability to extend her fingers and numbness over her left wrist. On examination, there is paraesthesia of the skin over the left wrist and anatomical snuffbox, and an inability to extend her metacarpophalangeal joint. She also demonstrates wrist drop. Clinical injury to radial nerve is suspected.

Which of the following is the most likely site of injury?

A. In the axilla

B. Carpel tunnel

C. Olecranon process

**D. Spiral groove of humerus

A 25-year-old woman is bought to the Emergency Department after being rescued from a burning house after 2 hours. She is drowsy, and covered in black soot. On examination, she has 35% burns and nostrils and mouth are filled with soot. After initial resuscitation, her carboxyhemoglobin levels are raised (40%).

Blood pressure 90/50 mmHg
Heart rate 125 /min
Respiratory rate 32 /min
Temperature 36.6 °C

Which of the following is the most appropriate management?

A. Exchange transfusion

B. Hyperbaric oxygen therapy

C. Carbonic anhydrase inhibitor therapy

**D. Intubation and ventilation with 100% oxygen

A 40-year-old presents with a right breast lump that has been present for 2 years. On examination, there is firm lump about 4 x 5 cm in the inner quadrant, overlying skin is normal and no palpable axillary nodes (see report)

Trucut biopsy:
Cystosarcoma Phylloides.

Which of the following is the most appropriate management?

A. Chemotherapy

B. Radiation therapy

**C. Wide local excision

D. Simple mastectomy

A 55-year-old man complains of dark stool and weakness. He has peptic ulcer disease and endoscopy investigations have confirmed multiple ulcers in the antrum. He has been kept on medical therapy. On examination, his abdomen is soft and non-tender. Repeat endoscopy confirms multiple ulcers in the antrum (see lab results).

Test	Result	Normal Values
Hb	58	130-170 g/L
HCT	0.18	0.42-0.52

Which of the following is the most appropriate management?

A. Total gastrectomy

**B. Partial distal gastrectomy

C. Endoscopic laser photocoagulation

D. Truncal vagotomy and pyloroplasty

A 22-year-old complains of a 2-day history of right sided chest pain and dyspnoea. It started during landing from a long flight. On examination, he is tall, breath sounds are absent on the right side and percussion note is resonant (see report).

CXR:
Right pneumothorax.

Which of the following is the most appropriate initial management?

A. Thoracentesis

**B. Tube thorcostomy

C. Thoracoscopic blebectomy

D. Conservative management

A 70-year-old woman is bed bound due to basal ganglia bleed is having difficulty swallowing and has experienced significant weight loss. On examination, she is emaciated, and lethargic. Weak muscles of mastication and an absent gag reflex

Which of the following is the most appropriate option to establish feeding?

A. Gastrostomy tube

[✓ B. Jejunostomy tube]

C. Parenteral nutrition

**D. Nasogastric tube feeding

A 60-year-old woman complains of a large amount of fresh bleeding per rectum and weakness. She had similar episodes 2 weeks ago. On examination, she looks pale and dehydrated. Her abdomen is soft and non-tender Digital rectal examination revealed bright red blood on finger (see lab results and reports).

Blood pressure 90/60 mmHg
Heart rate 120 /min

Test	Result	Normal Values

Hb 55 120-160 g/L
HCT 0.16 0.37-0.48

Colonoscopy:
Normal mucosa.

Technetium scan:
Angiodysplasia in left colon.

Which of the following is the most appropriate management?

A. Left hemicolectomy

B. Conservative treatment

C. Endoscopic laser ablation

**D. Mesenteric angioembolization

A 37-year-old woman complains of abdominal fullness, epigastric discomfort and loss of appetite, She is recovering from an episode of acute pancreatitis 5 weeks ago. On examination, her abdomen is distended and there is vague fullness in epigastrium (see report).

CT scan:
Cyst about 24 x 18 cm in the lesser sac.

Which of the following is the most appropriate management?

A. Excision of cyst

B. Surgical drainage

C. Image guided aspiration

**D. Endoscopic Internal drainage

A 65-year-old smoker with diabetes mellitus presents with a long history of intermittent buttock pain and claudication that has worsened over the past few weeks. On examination, there is atrophy of buttock muscles with decreased power and painful movements. The femoral pulses are weak (see report).

Angiogram:
Aortoiliac insufficiency.

Which of the following is the most appropriate management?

A. Vasodilator therapy

B. Aortofemoral bypass

**C. Axillobifemoral bypass

D. Lumbar sympathectomy

A 45-year-old presents after a 50 feet fall. On examination, he looks pale, peripheral pulses are feeble, and his chest has decreased breath sounds on left side (see image and report).

Blood pressure 100/60 mmHg
Heart rate 100 /min
Respiratory rate 20 /min

X-ray trauma series:
Left dislocated hip and calcaneal fracture.

Which of the following is the most appropriate management?

A. Left tube thoracostomy

B. Emergency thoracotomy

**C. Aortography and stenting

D. Intubation and ventilation

A 25-year-old woman that is taking steroids for inflammatory bowel disease complains of abdominal pain and bilious vomiting. On examination, her abdomen is distended and tender in the right iliac fossa. She had a colonoscopy 2 weeks ago which was normal. Contrast barium study was ordered (see report).

Blood pressure 110/70 mmHg
Heart rate 100 /min

Barium study:
Single stricture at terminal ileum, 1 cm from ileocecal valve.

Which of the following is the most appropriate management?

A. Stricturoplasty

**B. Right hemicolectomy

C. Conservative medical management

D. Segmental resection with ileostomy

A 45-year-old man with achalasia cardia presents to the Emergency Department with retrosternal pain and dyspnoea. He underwent oesophageal dilation 12 hours ago. On examination, he has crepitus at right lateral chest wall and neck (see lab results and report).

Blood pressure 100/60 mmHg
Heart rate 120 /min
Respiratory rate 28 /min
Temperature 40.6 °C

Test Result Normal Values
WBC 21.8 4.5-10.5 x 109/L

Gastrograffin study:
Contrast leak.

Which of the following is the most appropriate management?

A. Esophagectomy

B. Parenteral feeding

C. Esophageal stenting

**D. Surgical drainage and repair

A 24-year-old woman complains of abdominal pain, sweating and palpitation. She was recently diagnosed with hypertension and has had a low response to medical therapy. On examination, her abdomen is soft, and non-tender (see lab result and report).

Blood pressure 215/110 mmHg
Heart rate 124 /min
Respiratory rate 21 /min
Temperature 38.6 °C

Test Result Normal Values
Catecholamines 2100 <591 nmol/day

Ultrasound:
4 cm mass in right adrenal cortex.

Which of the following is the most appropriate management for the hypertension?

A. Beta blockers

B. ACE inhibitors

**C. Alpha blockers

D. Calcium channel blocker

A 5-year-old child complains of a painful left testicular swelling. On examination, there is a firm swelling in his left hemi-scrotum, it is irreducible, with negative transillumunation test.

Which of the following is the most appropriate management?

**A. Herniotomy

B. Orchidopexy

C. Herniorrhaphy

D. Tension free repair

A 27-year-old woman complains of a 3-month history of right upper quadrant pain, fever and malaise. On examination, she is febrile, her abdomen is soft and tender in the right upper quadrant. Indirect hemagglutination titer for echinococcus granulosus is positive (see image).

Blood pressure 110/70 mmHg
Heart rate 95 /min

Temperature 37.4 °C

Which of the following is the most appropriate management?

**A. Albendazole therapy

B. Percutaneous drainage

C. Open cyst deroofing

D. Laparoscopic pericystectomy

A 55-year-old patient is diagnosed with a gastrointestinal stromal tumour of the stomach (4 x 3 cm), confined to the body of the stomach, no surrounding infiltration, no distant metastases or lymphadenopathy.

Which of the following is the most appropriate management?

A. Gastrectomy

B. Endoscopic ablation

C. Systemic chemo radiation

**D. Wedge resection with clear margins

A 35-year-old man with gastroesophageal reflux disease presents to discuss his family history of oesophageal and gastric carcinoma.

Which of the following is the main risk factor for oesophageal carcinoma?

A. Smoking

B. Idiopathic

**C. Barrets oesophagus

D. Long standing achalasia

A 26-year-old woman complains of right upper quadrant pain and nausea. She is 20 weeks pregnant. On examination, her abdomen is soft and non-tender.

Ultrasound: Cholelithiasis.

Which of the following is most appropriate management?

A. Cholecytostomy tube

B. Open cholecystectomy

C. Conservative treatment

**D. Laparoscopic cholecystectomy

A 20-year-old woman presents with fever and pain in her right leg. On examination, her right leg is swollen, tender with multiple red streaks, and palpable inguinal nodes.

Which of the following is the most likely causative organism?

A. Bacteroides

B. Enterococcus

C. Klebsiella pneumoniae

**D. Streptococcus pyogenes

Which of the following is most commonly associated with retroperitoneal sarcoma?

A. Retroperitoneal bleeding

B. Systemic lymphadenopathy

C. Invasion into surrounding tissues

**D. Compression of surrounding tissues

A 45-year-old woman complains of chills and rigors. She underwent a common bile duct exploration a few hours ago (see lab results).

Blood pressure 110/70 mmHg
Heart rate 80 /min
Respiratory rate 18 /min
Temperature 38 °C

Test Result Normal Values
Hb 130 130-170 g/L (Male)
120-160 g/L (Female)
WBC 9 4.5-10.5 x 109/L
Neutrophils 50 40-60%

Which of the following is the most likely diagnosis?

A. Sepsis

**B. Bacteraemia

C. Severe sepsis

D. Systemic inflammatory response syndrome

A 45-year-old man is complaining of chills and rigors. He underwent an elective subtotal colectomy for ulcerative colitis 12 hours ago (see lab results).

Blood pressure 110/70 mmHg
Heart rate 110 /min
Respiratory rate 18 /min
Temperature 38 °C

Test Result Normal Values

Hb 110 130-170 g/L (Male)
  120-160 g/L (Female)
HCT 0.40 0.42-0.52 (Male)
  0.37-0.48 (Female)
WBC 15 4.5-10.5 x 109/L
Neutrophils 60 40-60%

Which of the following is the most likely diagnosis?

A. Sepsis

B. Bacteraemia

C. Severe sepsis

**D. Systemic inflammatory response syndrome

A 65-year-old patient complains of chills and rigors 12 hours after undergoing removal of infected ureteric stent. Prior to the cystoscopy, her urine culture was positive for E. Coli (see lab result).

Blood pressure 110/70 mmHg
Heart rate 96 /min
Respiratory rate 18 /min
Temperature 38.6 °C

Test Result Normal Value
WBC 15 4.5-10.5 x 109/L

Which of the following is the most likely diagnosis?

**A. Sepsis

B. Bacteraemia

C. Severe sepsis

D. Systemic inflammatory response syndrome

A 65-year-old required intubation and transfer to Intensive Care Unit after collapsing in the ward. 2 days previously, she underwent an operation for empyema of the gallbladder (see lab result).

Blood pressure 110/70 mmHg
Heart rate 110 /min
Respiratory rate 24 /min
Temperature 38.7 °C

Test Result Normal Value
WBC 19 4.5-10.5 x 109/L

Which of the following is the most likely diagnosis?

A. Sepsis

B. Bacteraemia

**C. Severe sepsis

D. Systemic inflammatory response syndrome

A 24-month-old baby is brought in with a right sided red inflamed hemiscrotum. On exploration, the right testis is viable however; the cord is thick and oedematous.

Which of the following is the most likely diagnosis?

A. Testicular torsion

**B. Epididymo-orchitis

C. Incarcerated inguinal hernia

D. Torsion of a testicular appendage

A 7-month-old baby is brought in with a red and inflamed left hemiscrotum. Examination confirms a firm, tender, irreducible lump in the scrotum extending to the groin. The left testis cannot be palpated.

Which of the following is the most likely diagnosis?

A. Testicular torsion

B. Epididymo-orchitis

**C. Incarcerated inguinal hernia

D. Torsion of a testicular appendage

A 12-year-old presents with left sided lower abdominal pain. Examination confirms a slightly elevated, tender left testis with redness and oedema of the scrotum.

Which of the following is the most likely diagnosis?

**A. Testicular torsion

B. Epididymo-orchitis

C. Incarcerated inguinal hernia

D. Torsion of a testicular appendage

A 12-year-old presents with a 2-day history of right sided scrotal pain. Examination confirms right testis with vertical orientation. There is an area of tenderness around the superior pole and the scrotum is red and oedematous.

Which of the following is the most likely diagnosis?

A. Testicular torsion

B. Epididymo-orchitis

C. Incarcerated inguinal hernia

**D. Torsion of a testicular appendage

A 24-month-old is presented with redness of both hemi-scrotum. Examination confirms non-tender, redness and oedema of the scrotum extending to both groins.

Which of the following is the most likely diagnosis?

A. Testicular torsion

B. Epididymo-orchitis

**C. Idiopathic scrotal oedema

D. Torsion of a testicular appendage

A 12-year-old patient presents with a 4-hour history of right sided lower abdominal pain. Examination confirms a slightly elevated, tender right testis. The lie of the testis is horizontal with no redness or oedema of the scrotum.

Which of the following is the most appropriate management?

A. Oral analgesics

B. Oral antibiotics

C. Doppler ultrasound

**D. Scrotal exploration

A 65-year-old with ischaemic heart disease is complaining of chest pain 2 hours after a laparoscopic cholecystectomy. Examination confirms an irregular pulse.

Blood pressure 80/58 mmHg
Respiratory rate 22 /min
Temperature 36.6 °C

Which of the following is the most appropriate management?

**A. ECG

B. Chest X-ray

C. CT angiography

D. Doppler scan of lower limbs

A 25-year-old man presents to the Emergency Department his left thigh was run over accidentally by a car. Examination confirms stripping of skin and subcutaneous fat. Underlying neurovascular structures are exposed.

Heart rate 100 /min
Respiratory rate 20 /min
Temperature 36.6 °C

Oxygen saturation 95 %

Which of the following is the most appropriate management?

A. Debridement and primary closure

B. Primary repair of injured structures

**C. Debridement and secondary skin grafting

D. Debridement and vacuum-assisted closure

A 75-year-old man in the Intensive Care Unit has developed a discharging sacral wound. Examination confirms necrotic skin and subcutaneous fat.

Which of the following is the most appropriate management?

A. Primary repair

B. Debridement and primary closure

C. Debridement and primary skin grafting

**D. Debridement and vacuum-assisted closure

A 45-year-old sustained a knife injury to his left wrist. Examination confirms a clean wound with division of the underlying tendons and median nerve.

Which of the following is the most appropriate management?

A. Debridement and primary closure

**B. Primary repair of injured structures

C. Debridement and secondary closure

D. Debridement and secondary skin grafting

A 72-year-old underwent a subtotal colectomy 5 days ago. His urine output over the past 8 hours has been 7 ml/hr.

Blood pressure 110/70 mmHg
Heart rate 90 /min
Temperature 36.6 °C

Which of the following is most appropriate to administer intravenously?

A. Diuretics

B. Inotropes

C. Antibiotics

**D. 500 NS fluid challenge

A 75-year-old man complains of severe diarrhoea for the past 2 days. He has been taking antibiotics for the past 2 weeks for a lower respiratory tract infection. Examination confirms generalized distension and tenderness.

Blood pressure 100/60 mmHg
Heart rate 110 /min
Respiratory rate 22 /min
Temperature 38 °C

Which of the following is the most appropriate management?

A. CT scan of chest

B. Diagnostic laparoscopy

C. Exploratory laparotomy

**D. Stool for clostridium difficile toxins

A 60-year-old woman presents with a 12-hour history of severe pain in the epigastrium radiating to her back. It is associated with nausea and 2 episodes of vomiting. She has a history of cholelithiasis. Abdominal examination confirms generalized tenderness in abdomen.

Which of the following is the most likely diagnosis?

A. Biliary colic

**B. Acute pancreatitis

C. Acute cholecystitis

D. Empyema gallbladder

A 7-day-old is presented for circumcision. Examination confirms urethral opening on the dorsal surface.

Which of the following is the most likely diagnosis?

**A. Epispadias

B. Coronal hypospadias

C. Glandular hypospadias

D. Mid-penile hypospadias

A 3-year-old uncircumcised boy has a history of foreskin ballooning during micturition. Examination confirms a ring of white scarred tissue and an inability to retract foreskin.

Which of the following is the most likely diagnosis?

A. Chordee

**B. Phimosis

C. Hypospadias

D. Paraphimosis

A 3-day-old is presented for circumcision. Examination confirms chordee and hooded foreskin. Urethral opening is at mid-penile level.

Which of the following is the most appropriate management?

A. Open circumcision

B. Plastibell circumcision

C. Circumcision using gumco

**D. Referral to paediatric surgeon

What colour of nipple discharge is most commonly associated with intraductal papilloma of the breast?

**A. Red

B. Black

C. White

D. Green

A 60-year-old woman presents with a mass in her right breast. Clinical examination confirms a hard, non-tender irregular lump with skin tethering.

Which of the following is the most likely diagnosis?

A. Breast cyst

B. Duct ectasia

C. Fibroadenoma

**D. Carcinoma of breast

A 20-year-old woman complains of the recent onset of a swelling in her left breast. Examination confirms a smooth walled oval shaped mass measuring 2x2 cm.

Which of the following is the most likely diagnosis?

A. Breast cyst

B. Duct ectasia

**C. Fibroadenoma

D. Carcinoma of breast

A 35-year-old woman presents with difficulty in breastfeeding her baby. Examination confirms unilateral nipple inversion. Gentle pressure everts the nipple and it is transversely slitted.

Which of the following is the most likely diagnosis?

A. Breast cyst

**B. Duct ectasia

C. Fibroadenoma

D. Carcinoma of breast

A 28-year-old lactating mother presents with pain in her right breast. Examination confirms a 3 cm tender swelling with red and hot overlying skin.

Temperature 37.9 °C

Which of the following is the most likely diagnosis?

A. Duct ectasia

B. Fibroadenosis

C. Fibroadenoma

**D. Breast Abscess

A 36-year-old woman presents with pain in both breasts associated with multiple lumps that become prominent during her premenstrual phase. Examination confirms multiple nodules of variable size and consistency. Examination of the axillae is normal (see report)

Ultrasound:
Multiple bilateral cysts of variable sizes, and 2 solid oval shape lesion in left breast.

Which of the following is the most likely diagnosis?

A. Fibroadenomas

B. Chronic mastitis

**C. Fibrocystic disease

D. Carcinoma of breast

A 24-year-old lactating mother presents with pain in her right breast. Examination confirms a 5 cm tender swelling. The overlying skin is red, inflamed and thinned out.

Temperature 38.7 °C

What is the most appropriate management?

A. Lump excision

B. Needle aspiration

**C. Incision and drainage

D. Conservative management with antibiotics

A 25-year-old man underwent surgery for inflammatory bowel disease. He requires regular replacement of fat-soluble vitamins parenteraly.

Which part of the bowel was most likely removed?

**A. Distal ileum

B. Mid jejunum

C. Transverse colon

D. Descending colon

A 75-year-old woman presents with a 7-day history of severe pain in the epigastrium. The pain is relieved by vomiting and becomes worse when eating. History confirms that she has been taking medication for joint pain for the last 2 months.

Which of the following is the most likely diagnosis?

A. Esophagitis

**B. Acute gastritis

C. Boerhaave's syndrome

D. Perforated peptic ulcer

A 60-year-old patient complains of sudden onset of upper abdominal pain after a few bouts of vomiting. Examination confirms a sick patient with tenderness in the epigastrium and supraclavicular subcutaneous emphysema.

Which of the following is the most likely diagnosis?

A. Esophagitis

B. Acute gastritis

C. Perforated peptic ulcer

**D. Boerhaave's syndrome

A 25-year-old man presents with a 6-month history of heartburn. The pain becomes worse at night after lying down. On lifting weight, he experiences a bitter taste in mouth.

Which of the following is the most likely diagnosis?

**A. Esophagitis

B. Acute gastritis

C. Boerhaave's syndrome

D. Perforated peptic ulcer

A 55-year-old man presents with sudden, severe and constant pain in his epigastrium for the past 2 hours. History confirms that he has been on medication for joint pain for the last 2 years.

Examination confirms a very sick patient with sunken eyes. Abdomen is tender and rigid to palpation.

Which of the following is the most likely diagnosis?

A. Esophagitis

B. Acute gastritis

**C. Perforated peptic ulcer

D. Boerhaave's syndrome

A 50-year-old man presents with a long-standing history of indigestion and epigastric discomfort. He has poor appetite and has lost 10 kg recently. Examination confirms wasting of facial muscles, palpable supraclavicular lymph nodes and dull epigastric mass.

Which of the following is the most likely diagnosis?

A. Liver metastasis

B. Chronic peptic ulcer

**C. Stomach carcinoma

D. Chronic pancreatitis

A 65-year-old man presents with a 72-hour history of severe pain in epigastrium radiating to his back with associated nausea and 2 episodes of vomiting. History confirms that he is a known case of cholelithiasis. Abdominal examination confirms generalized tenderness in abdomen. US guided aspiration of the intra-abdominal fluid grows E.coli (see lab results).

Blood pressure 100/70 mmHg
Heart rate 110 /min
Respiratory rate 22 /min
Temperature 38.6 °C

Test Result Normal Values
Amylase 576 24-151 IU/L
Lipase 300 0-160 IU/L
C-reactive peptide 135 <8.2 mg/L

What is the most likely explanation for the bacterial growth?

A. Bowel perforation

**B. Bacterial translocation

C. Haematogenous spread

D. Exogenous contamination

A 25-year-old woman presents with a longstanding history of lower abdominal and right hypochondrial pain. Diagnostic laparoscopy confirms pelvic and perihepatic adhesions.

Which of the following is most likely responsible?

A. E.coli

**B. Chlamydia

C. Bacteroides

D. Streptococci

A 25-year-old woman presents with a 6-hour history of lower abdominal pain associated with nausea and 1 episode of vomiting. Examination confirms minimal tenderness in the suprapubic and left iliac fossa region. Urine dipstick and pregnancy tests are normal (see lab results).

Blood pressure 110/70 mmHg
Heart rate 76 /min
Temperature 36.6 °C

Test Result Normal Values
Hb 110 130-170 g/L (Male)
120-160 g/L (Female)
WBC 9 4.5-10.5 x 109/L
Neutrophils 50 40-60%

Which of the following is the most appropriate management?

**A. US abdomen

B. Abdominal X ray

C. Diagnostic laparoscopy

D. Discharge on oral analgesics

A 55-year-old is admitted for an elective laparoscopic cholecystectomy. He is diabetic and hypertensive for 5 years. History confirms a recent admission in Intensive Care Unit for anterior wall MI 6 weeks ago.

What is the most appropriate management?

A. Open cholecystectomy during this admission

**B. Laparoscopic cholecystectomy after 6 months

C. Laparoscopic Cholecystectomy during this admission

D. Per-cutaneous cholecystostomy during this admission

A 65-year-old patient is admitted for elective ventral hernia repair. He is diabetic and hypertensive for 10 years. Examination confirms raised JVP, bilateral basal crepitation on chest auscultation and pedal edema.

What is the most appropriate next step in management?

A. Open repair as scheduled

B. Laparoscopic repair as scheduled

**C. Surgery after optimization at later date

D. No surgery unless presents with obstruction

A 45-year-old woman complains of dysphagia to liquids, retrosternal pain on swallowing and regurgitation of food.

Which of the following has the highest diagnostic value?

A. Barium swallow

B. CT with contrast

C. Upper gastrointestinal endoscopy

**D. Lower oesophageal sphincter manometry

Which of the following is the most objective method for identifying high-risk patients for peri-operative morbidity and mortality?

A. Metabolic equivalent tasks

B. Revised cardiac risk index of lee

**C. Cardiopulmonary exercise testing

D. American society of anaesthesiologist scoring

A 45-year-old is brought to the Emergency Department following a high-speed motor vehicle accident. Examination confirms seat belt sign (see report).

CT:
Chance fracture of lumbar vertebrae.

Which of the following is the most likely finding on an abdominal CT?

A. Injury to vena cava

B. Stomach perforation

**C. Duodenal perforation

D. Isolated jejunal blowout

A 25-year-old is brought to the Emergency Department after being rescued from a burning building. Examination confirms a slightly confused patient with singed facial and nasal hair.

Which of the following is the most appropriate next step in management?

**A. Elective intubation

B. Observation in ICU

C. Avoid medico-legal issues

D. Advice on pain management

A 45-year-old is presented following poly-trauma. He requires intubation to protect airway obstruction. After resuscitation and management, he is transferred to ICU.

Which of the following is the most appropriate method to clear the cervical spine?

**A. CT scan

B. Clinical judgement

C. MRI of cervical spine

D. AP and Lateral view cervical spine x-ray

Which of the following is the most appropriate strategy to avoid air bag injury in children under the age of 12 years?

**A. Restrain in back seats

B. Restrain in front seats

C. Rear facing in front seats

D. Booster seats in front seats

A 50-year-old woman comes to the clinic with numbness in the lower part of the ear, lower face, and upper neck. History reveals, she underwent a lateral neck dissection. Examination shows, loss of sensation over both surfaces of the lower part of the pinna and skin overlying the angle of the mandible on the same side of the operation.

Which of the following nerves is most likely injured?

A. Third occipital

**B. Great auricular

C. Lesser occipital

D. Greater occipital

A 25-year-old man is brought to the Emergency Room after a motor vehicle accident. Examination shows, he has a severed nerve in the right upper limb, resulting in a loss of adduction of all the digits of the right hand.

Which of the following is the most likely affected nerve?

**A. Ulnar

B. Median

C. Musculocutaneous

D. Upper subscapular

A 26-year-old man is brought to the Emergency Room after sustaining a bullet injury to his arm.

Examination shows his median nerve was damaged.

Which of the following is the most likely clinical finding?

**A. Ape hand

B. Claw hand

C. Wrist drop

D. Waiter's tip hand

A 19-year-old patient comes to the clinic because he is unable to bring the fork to his mouth to feed himself. History reveals the patient had a closed head injury in a motor vehicle accident 10 days ago.

Which of the following is the most likely involved area?

**A. Cerebellum

B. Parietal lobe

C. Occipital lobe

D. Temporal lobe

A 24-year-old woman comes to the clinic after noticing a lump in her breast. Examination shows, a firm, painless, and freely movable 3 cm mass in the left breast. The mass has grown slowly over the past year and does not change during the menstrual cycle.

Which of the following is the most likely diagnosis?

A. Fat cyst

**B. Fibroadenoma

C. Fibro-cystic changes

D. Intraductal papilloma

A 21-year-old patient presents with an abnormal left testicle. On examination, the area adjacent to the left testicle feels like a bag of worms, which gets larger with a valsalva maneuver.

Which of the following is the most likely diagnosis?

A. Hydrocele

**B. Varicocele

C. Spermatocele

D. Left inguinal hernia

A 35-year-old man patient comes to the clinic with a painless ulcer on his penis. History reveals, he had unprotected sexual encounter 3 weeks ago. Examination shows that the lesion has a clean base with sharp margins, and there are non-tender palpable regional lymph nodes.

Which of the following is the most likely diagnosis?

**A. Syphilis

B. Chancroid

C. Gonorrhoea

D. Granuloma inguinale

A 53-year-old man presents to the hospital with fever and pain in the right knee for 2 days. On physical examination, the right knee was swollen and red with a limited range of motion. A knee joint aspiration was performed. Then, the patient started empirically on Cloxacillin. On day 3 after admission, a further report was received (see reports).

Bacteriology:
Gram stain showed numerous white blood cells and gram positive cocci in clusters.

Bacteriology (3 days later):
Staphylococcus aureus that was resistant to cefoxitin.

Which of the following is the most appropriate action?

A. Add gentamicin

**B. Start vancomycin

C. Continue cloxacillin

D. Arthroscopic washout

A 75-year-old man presents to the Outpatient Department, complaining of back pain and increasing difficulty with passing urine (see lab results).

Test Result Normal Values
Prostate-specific antigen 84 0-4 µg/L
Alkaline phosphatase 410 39-117 IU/L
Albumin 41 34-56 g/L
Gamma glutamyltransferase 19 6 to 37 IU/L

Which of the following is the most likely diagnosis?

A. Prostatitis

**B. Prostatic cancer

C. Urinary bladder cancer

D. Benign prostate hyperplasia

A 60-year-old man presents to the clinic with pain in the left flank, weight loss, and haematuria. Examination confirms a firm mass in the lumbar region.

Blood pressure 158/98 mmHg
Heart rate 76 /min
Respiratory rate 18 /min

Temperature 36.6° C

Which of the following imaging is the most diagnostic?

A. MRI

**B. CT scan

C. Ultrasound

D. Radionuclide scan

A 30-year-old patient presents to the clinic with a pelvic fracture, due to blunt trauma. A retrograde urethrography demonstrates disruption of the membranous urethra.

Which of the following is the most appropriate first step in management?

A. Perineal repair

B. Retropubic repair

**C. Suprapubic catheter

D. Transurethral catheter

A 2-year-old boy is brought to the clinic with a large left-sided abdominal mass. IV pyelogram shows, the mass appears to arise from the left kidney and distort and displace the collecting system (see report).

Chest X-ray:
Multiple pulmonary nodules.

Which of the following is the most likely diagnosis?

**A. Wilm's tumour

B. Neuroblastoma

C. Rhabdomyosarcoma

D. Non-Hodgkin lymphoma

A 30-year-old patient presents with recurrent urinary tract infections, polyuria, and electrolyte imbalance (see report).

Ultrasound:
Bilaterally enlarged kidneys with multiple, variably-sized and thin-walled cysts distributed throughout the renal parenchyma.

Which of the following is the most likely diagnosis?

A. Carcinoma bladder

B. Renal calculi disease

C. Medullary sponge kidney

**D. Polycystic kidney disease

An 80-year-old man presents with dull aching pain in the loins (see lab results and report).

Test Result Normal Values
Creatinine 280 44-115 µmol/L
Urea 12.5 2.75-7.4 mmol/L

Ultrasound abdomen:
Bilateral hydronephrosis.

Which of the following is the most likely diagnosis?

A. Stricture of urethral meatus

**B. Prostatic enlargement

C. Neoplasm of bladder

D. Pelvic cancer

A 65-year-old male comes to the clinic with a mild intermittent urinary flow reduction. Rectal examination, urinalysis and prostate specific antigen studies are normal (see report).

Ultrasound prostate:
Enlarged median lobe.

Which of the following is the best way to investigate?

A. Annual renal function monitoring

**B. Periodic PSA measurement

C. Beta-blocker therapy

D. Cystoscopy

An 82-year-old man presents to the clinic with Inability to urinate. The patient complains of severe pain and bloating in the lower abdomen, painful and urgent need to urinate.

Which of the following is the most appropriate management?

A. Semi-urgent prostatectomy

B. Antibiotic for a urinary infection

**C. Foley catheterisation and culture urine

D. Cystoscopy and Transurethral Resection Prostatectomy

A 70-year-old, non-smoking man presents with increased urinary frequency, especially at night. The patient feels that the bladder is not fully empty after voiding, and the urine stream has slightly diminished. The patient's high blood pressure is well controlled with a calcium channel blocker. There is no associated fever, weight loss, haematuria, or pain with voiding. The digital rectal examination was significant for a moderate enlargement of the prostate, but is otherwise normal. Results of urinalysis and kidney function tests were normal (see lab result).

Test Result Normal Value
PSA antigen 1 < 4 ng/ml

Which of the following is the most appropriate initial management?

A. Cystoscopy

B. Open prostatectomy

**C. Alpha-blocker therapy

D. Transurethral Resection Prostatectomy

A 56-year-old multiparous patient on oral oestrogen, complains of painless urine incontinence when coughing, sneezing, or laughing for 1 year. On examination, there was mild vaginal atrophy and constrictor muscle laxity. Urinary incontinence is demonstrated in the lithotomy position with Valsalva manoeuvre (see report).

Urinalysis:
Normal.

Which of the following would be the recommended management?

A. Beta blocker

**B. Kegel exercises

C. Periurethral bulking

D. Post-coital antibiotics

A 37-year-old man presents to the clinic with flank pain, haematuria and burning sensation while urinating. The pain became more severe and constant in the last several days.

Which of the following is the most appropriate investigation?

A. Nuclear renal scan

B. Ultrasound of Kidneys

**C. CT of Abdomen without contrast

D. CT of Abdomen with oral and IV contrast

A 70-year-old man presents with urinary incontinence. The patient's bladder is palpably distended after voiding. The patient stated that he voids frequently, although he has difficulty initiating the urine stream.

Which of the following is the most likely type of incontinence?

A. Urge

B. Stress

C. Reflex

**D. Overflow

A 40-year-old man comes to the clinic with pain in the lower back, and blood in the urine. IVP shows a non-opaque filling defects in the renal pelvis. Ultrasound revealed dense echoes and acoustic shadowing.

Which of the following is the most likely diagnosis?

A. Tumour

B. Blood clot

**C. Uric acid stone

D. Sloughed renal papilla

A 74-year-old man is referred to the thoracic surgeon with dysphagia of solid food for six weeks which marked weight loss for 2 months. Oesophageal endoscopy shows a stenotic mass in the mid oesophagus (see report).

Chest X-ray:
Normal.

Which of the following is the most likely diagnosis?

A. Lymphoma

B. Adenocarcinoma

**C. Squamous cell carcinoma

D. Extension from neuroendocrine cancer

An army soldier comes to Outpatient Clinic complaining of painful flat feet after several years of service, which included thousands kilometres of marching in the desert. The pain was acute in the medial aspect of his sole.

Which of the following structures is the most likely strained?

A. Tendon achilles

**B. Spring ligament

C. Flexor retinaculum

D. Extensor retinaculum

A 65-year-old woman comes to Outpatient Clinic complaining of pain in her left hand and fingers from typing on the keyboard for a while. Investigations reveals insufficient blood flow into the superficial palmar arch.

Occlusion of which of the following arteries is the most likely cause?

**A. Ulnar

B. Radial

C. Anterior interosseous

D. Posterior interosseous

As a part of physical examination to evaluate the lower limb function of a football player, the physician asked him to stand on his tiptoes.

Which of the following nerves was the physician testing?

**A. Tibial

B. Femoral

C. Deep fibular

D. Superficial fibular

A 20-year-old man comes to the clinic complaining of a knee pain. History reveals he received a severe blow on the inferolateral side of the left knee joint while playing football. Radiographic examination revealed a fracture of the head and neck of the fibula.

Which of the following nerves is the most likely to be damaged?

A. Tibial

B. Deep peroneal

**C. Common peroneal

D. Superficial peroneal

A 25-year-old man is brought to the Emergency Room after a severe road traffic accident. Examination shows he has an unstable left knee joint and it was possible to pull the tibia abnormally forwards on the femur.

Which of the following ligaments is most likely injured?

A. Fibular collateral

B. Tibial collateral

**C. Anterior cruciate

D. Posterior cruciate

A 35-year-old man is brought to the Emergency Room after a road traffic accident. X-ray shows a displaced fracture of the mid shaft of the humerus.

Which of the following is the most likely clinical complication?

**A. Wrist drop

B. Claw hand

C. Waiter's tip hand

D. Klumpke's paralysis

A 24-year-old man came to the hospital with pain, swelling and difficulty in moving the arm. Examination shows he has humeral fracture (see report).

X-ray:
The fracture was at the level of the surgical neck.

Which of the following nerves was most likely injured?

A. Ulnar

B. Radial

**C. Axillary

D. Median

A 41-year-old woman developed atrophy of the thenar eminence, but the sensation over it is intact.

Which of the following nerves is the most likely damaged?

A. Ulnar

B. Radial

C. Axillary

**D. Median

A 27-year-old pianist with a known carpal tunnel syndrome, experiences difficulty in finger movements.

Which of the following muscles is most likely paralyzed?

**A. Thenar muscles

B. Dorsal interossei

C. Palmar interossei

D. Medial two lumbricals

A 52-year-old woman slipped and fell, she complained of being unable to extend her leg at the knee joint.

Which of the following muscles is most likely paralyzed?

A. Sartorius

B. Biceps femoris

C. Semitendinosus

**D. Quadriceps femoris

A 45-year-old man was brought in the Emergency Department after a motor vehicle accident with severe pain on his left arm. X-rays confirmed left humeral and ulnar fractures. After an open reduction and internal fixation, the patient was unable to extend his forearm, wrist and fingers.

Which of the following is the most likely damaged?

A. Ulnar nerve at medial epicondyle

B. Median nerve at the cuboidal fossa

**C. Radial nerve above the spiral grove

D. Median nerve at the lateral epicondyle

A 25-year-old man presents to the hospital with an open fracture of his right leg, after a motor bike accident on a farm. Later he develops severe pain, necrosis and blue discoloration of the skin, and apparently there is gas in the deep tissues of the leg.

Which of the following is the most likely causing agent?

A. Actinomyces israelii

B. Staphylococcus aureus

**C. Clostridium perfringens

D. Mycobacterium ulcerans

A 26-year-old man complained of pain in his buttocks, lower back and stiffness which improved after moving around and doing exercises. The patient had similar complaints a year ago.

Which of the following is the most likely diagnosis?

A. Hyperuricemia

B. Psoriatic arthritis

C. Reactive arthritis

**D. Ankylosing spondylitis

A 36-year-old man has unilateral mild pain in the neck which radiates to the right interscapular and shoulder regions. The pain is followed by sharp, electric shock-like pain, which goes down the arm with numbness, weakness and loss of tendon reflexes.

Which of the following is the most likely diagnosis?

A. Whiplash injury

**B. Cervical disc prolapse ✓

C. Rotator cuff tendonitis

D. Polymyalgia rheumatica

A 58-year-old healthy patient has a six-month history of central lower back pain. The pain is present on awakening, and without treatment, resolves after about 30 minutes. Acetaminophen seemed to help it resolve sooner. Morning examination showed mild paraspinal muscle spasm with no neurological changes (see report).

MRI Lumbar:
Mild lumbar spinal stenosis.

Which of the following is the most appropriate management?

A. Biofeedback

**B. Physical therapy

C. Lumbar laminectomy

D. Epidural steroid injection

A 24-year-old was running and suddenly experienced severe left leg pain. The patient was limping because of the pain, which is relieved by passive stretching.

Which of the following is the most commonly involved muscle?

A. Soleus

**B. Gastrocnemius

C. Tibialis posterior

D. Peroneus longus

A 23-year-old athlete presented with foot pain while standing and walking. On physical exam, there was significant tenderness on the midline plantar surface of the foot. The patient denied any history of trauma.

Which of the following is the most likely diagnosis?

A. Hallux valgus

B. Hallux rigidus

**C. Plantar fasciitis

D. Tarsal tunnel syndrome

A 24-year-old patient with history of epilepsy, is brought to the Emergency Room with complaints of left shoulder pain. The shoulder contour is flat and the arm is fixed in adduction and internal rotation.

Which of the following is the most likely type of shoulder dislocation?

A. Inferior

B. Subglenoid anterior

C. Subcoracoid anterior

**D. Subacromial posterior

A 2-year-old child who refuses to walk since the day before, presents to the clinic. The parent states that the child was playing and tripped over a toy. While falling, the right leg was caught in the toy and twisted. Since then, the child has wanted to be carried. The past medical history is normal and immunizations are current.

Which of the following is the most likely diagnosis?

**A. Spiral fracture of the right tibia

B. Spiral fracture of the right femur

C. Soft tissue swelling of the right ankle

D. Chip fracture of the proximal right tibia

A 23-year-old patient presented to the Emergency Department with pain in his finger that was caused by a hyperextension injury. An acute pain in the right second finger developed instantly. On examination, the patient cannot flex the distal phalanx of the right second finger, and has tenderness and swelling over the volar aspect of the distal phalanx of that finger. The patient also complained of pain and tenderness at the palm.

Which of the following is the most likely resulted injury?

**A. Rupture of the flexor profundus tendon

B. Rupture of the flexor superficialis tendon

C. Extra-articular fracture of the distal phalanx

D. Intra-articular fracture of the middle phalanx

A 26-year-old professional football player is brought to the Emergency Room after being hit on the lateral side of the left knee. The knee is buckled, and the patient is in severe pain. On examination, there was a swelling over the medial aspect of the left knee. There was laxity when valgus stress test was performed on the knee. Both the Lachman test and McMurray test were negative.

Which of the following is the most likely type of injury?

A. Lateral meniscus tear

B. Medial meniscus tear

C. Lateral collateral ligament sprain

**D. Medial collateral ligament sprain

A 12-year-old overweight boy complains of severe left hip pain after minor trauma. He cannot bear his weight on the left leg. The boy denied any history of fever. Physical examination confirmed that the left lower leg was externally rotated and the range of motion of the left hip joint is restricted and painful. Laboratory results were normal (see image).

Which of the following is the most likely diagnosis?

A. Septic arthritis

B. Femoral neck fracture

**C. Slipped capital femoral epiphysis

D. Developmental dysplasia of the hip

An 80-year-old woman presents with a history of bilateral leg pain and numbness, preventing her from walking more than 50 meters for over 2 years. Her symptoms are worse when going downhill. On the other hand, she can walk further if she bent forward on a walker or if she is going uphill. When she reaches the limit, her leg pain stops her from going any further. Physical examination showed a forward stooped gait. Spine and neurological examination were normal. Both pedal pulses are present.

Which of the following is the most likely diagnosis?

**A. Lumbar spinal stenosis

B. Lumbar discogenic pain

C. Peripheral vascular disease

D. Lumbosacral spondylolisthesis

An 8-year-old boy presents to the Emergency Department after a fall on his left forearm. On examination, there was swelling and a deformity with a 1 cm wound on the volar aspect of his forearm (see image).

Which of the following is the first step in management?

A. Closed reduction and below elbow cast

B. Closed reduction and above elbow cast

C. Discharge the patient with oral antibiotic

**D. Surgical debridement, irrigation, and fixation

A 30-year-old man was hit by a car. He was brought to the Emergency Department within 1 hour, and cleared by the trauma team. He was found to have an isolated injury to his left leg. An examination revealed tenderness over the shin and abrasions with a small oozing wound. IV antibiotics and tetanus prophylaxis were started (see images).

Which of the following is the most appropriate next step?

A. Discharge from emergency department with above knee cast

**B. Urgent surgical debridement and intramedullary nailing

C. Closed reduction followed by external fixation

D. Discharge on oral antibiotic for 3 days

A 25-year-old obese patient complained of numbness and tingling of the little and ring fingers on the left hand. The patient said that the symptoms are worse when the hands are raised. The elevated arm stress test is positive on the left.

Which of the following is the most likely diagnosis?

**A. Carpal tunnel syndrome

B. Thoracic outlet syndrome

C. Chronic shoulder subluxation

D. Ulnar artery thrombophlebitis

A 13-year-old boy with sickle cell disease, presents with severe unilateral hip pain, which has developed over the past few weeks.

Which of the following is the most likely diagnosis?

**A. Avascular necrosis

B. Rheumatic fever

C. Psoriatic arthritis

D. Still's disease

A 30-year-old patient presents with history of pain and swelling of the right knee (see lab results).

Aspirate of knee
Test Result Normal Values
Colour Yellow Clear
Appearance Opaque Transparent
Viscosity Variable High
WBC 15.2 < 200 /ml
PMNs 80% < 25%
Mucin clot Poor Good

Which of the following is the most likely diagnosis?

A. Gouty arthritis

**B. Septic arthritis

C. Rheumatic arthritis

D. Pseudogout arthritis

An 8-year-old boy complained of pain in his right hip and was unable to walk, associated with high fever for the last five days. physical examination confirmed that the active and passive range of motion of the hip was painful and restricted. Pelvic and hip X-rays were normal. Ultrasound of the hip showed a right hip fluid collection (see lab results).

Blood pressure 120/65 mmHg
Heart rate 110 /min
Respiratory rate 22 /min
Temperature 39.2° C

Test Result Normal Values
Hb 125 112-165 g/L
Platelets count 210 150-400 x 109/L
WBC 9.8 4.5-10.5 x 109/L
ESR 78 2-10 mm/h
C-reactive peptide 2.0 0-0.5 mg/dl

Which of the following is the most appropriate next step in management?

A. Hip MRI

B. Bone scan

C. Hip CT scan

**D. Hip aspiration

A 42-year-old woman gives a history of recurrent fractures and the passage of stones in the urine preceded by renal colic. Family history and a clinical examination were normal (see lab results and report).

Test Result Normal Values
Calcium 2.60 2.15-2.62 mmol/L
Albumin 41 34-56 g/L
Phosphate 1.1 0.82-1.51 mmol/L
Parathyroid hormone 402 1.1-5.3 pmol/L

Plain X-ray abdomen:
Multiple radio-opaque shadows in the renal area.

Which of the following is the most appropriate investigation?

**A. Sestamibi scan

B. Alakline phosphatase

C. 24-hour urine calcium

D. Intravenous pyelogram

A 48-year-old man who is a smoker for the last 20 years, had a routine exam (see lab result and report).

Test Result Normal Value
Calcium 3.1 2.15-2.62 mmol/L

Chest X-ray:
4 cm diameter left hilar mass.

Which of the following is the most likely diagnosis?

A. Metastatic carcinoma

B. Adenocarcinoma of lung

C. Advanced bronchiectasis

**D. Squamous cell carcinoma of lung

A 19-year-old sustained head trauma following road traffic accident (see report).

Skull X-ray:
A skull base fracture passing through the jugular foramen.

Which of the following is most likely symptom?

A. Loss of abduction of the eye

**B. Ipsilateral vocal cord paralysis

C. Sensory loss over the zygoma

D. Paralysis of muscles of mastication

A patient presented with an infected wound at the forehead.

Which of the following lymph nodes will most likely enlarged?

A. Mastoid

**B. Submental

[✓ C. Submandibular]

D. Superficial parotid

A 28-year-old sustained motorcycle accident. Examination confirmed a deep laceration at the posterior aspect of the left calf, about 15 cm long and 5 cm deep.

Which of the following nerves is most likely injured?

**A. Tibial nerve

B. Sciatic nerve

C. Common fibular nerve

D. Superficial fibular nerve

A 30-year-old woman underwent endoscopic sinus biopsy of soft tissue mass at the roof of left maxillary sinus. After recovery, the patient experienced numbness and paraesthesia in her left lower eyelid and upper lip.

Which of the following is the most likely affected nerve?

A. External nasal

B. Infratrochlear

**C. Infraorbital

D. Mandibular

A 40-year-old man patient comes to the clinic after developing hoarseness of the voice and aspiration when drinking fluids. History reveals, he underwent thyroidectomy surgery 2 weeks prior to these symptoms.

Which of the following is the most likely damaged laryngeal nerve?

A. External

B. Internal

C. Superior

**D. Recurrent

A 73-year-old man recently underwent radical prostatectomy. 2 months later, investigation revealed metastatic spread of cancer cells.

Which of the following is the first site for venous spread?

**A. Bone

B. Lungs

C. Brain

D. Skull

A 45-year-old man had transurethral catheterization before going for a long surgical procedure. Postoperatively he developed haematuria and a urethral injury is suspected.

Which of the following is most likely injured part of urethera?

A. Penile

B. Prostatic

**C. Membranous

D. Middle spongy

A patient presented after a blunt injury over the left leg. Examination confirmed a sensory loss on adjacent sides of the great and second toes, and impaired dorsiflexion of the foot.

Which of the following nerves is most likely injured?

A. Sural

B. Saphenous

**C. Deep peroneal

D. Posterior tibial

A patient received a severe blow on the inferolateral side of the left knee joint while playing football. Radiographic examination confirmed a fracture of the head and neck of the fibula.

Which of the following nerves is most vulnerable for damaged?

A. Tibial

B. Deep peroneal

**C. Common peroneal

D. Superficial peroneal

A 19-year-old felt on an outstretched hand while playing football. Examination confirmed tenderness over the anatomic snuff box.

Which of the following is the most suspected fracture?

A. Colles

B. Cuboid

**C. Scaphoid

D. Hook of hamate

A 21-day-old newborn recently diagnosed with a patent ductus arteriosus undergoes surgery to ligate the duct.

Which of the following nerves would be at risk?

A. Left vagus

B. Left phrenic

**C. Left recurrent laryngeal

D. Left Superficial cardiac plexus

Which of the following syndromes is associated with coarctation of the aorta?

A. Down

**B. Turner

C. Edward

D. Patau

A 14-year-old-boy presents for a routine paediatrics exam.

There is no history of any major illness. Physical examination confirms an irregular pulse with no other abnormal findings (see image).

Blood pressure 115/70 mmHg
Heart rate 80 /min
Respiratory rate 20 /min
Temperature 36.8° C
Oxygen saturation 95% on room air

Height 175 cm (> 90th percentile
Weight 45 kg (25th percentile)

Which of the following is most likely prognosis?

A. Syncopal episodes

B. Need of pacemaker

**C. Normal development

D. Myocardial dysfunction

A 1-year-old child with high fever, poor feeding and inactivity has not urinated for 4 hours. On examination, there is a generalized petechial rash and the extremities are cold.

Blood pressure 74/40 mmHg
Heart rate 180 /min
Respiratory rate 34 /min
Temperature 37.4° C rectal

Which of the following is the most likely diagnosis?

**A. Septic shock

B. Renal failure

C. Acute myocarditis

D. Idiopathic thrombocytopenic purpura

A 6-year-old boy presents for his routine preschool check-up. The cardiovascular examination reveals a systolic murmur grade III, with no thrill, located at the lower sternal border, it is vibratory in character and accentuated when the boy is in a supine position.

Which of the following is the most likely diagnosis?

**A. Still murmur

B. Aortic stenosis

C. Atrial septal defect

D. Ventricular septal defect

Which of the following has the greatest risk of developing endocarditis in patients with congenital heart disease?

A. Patent ductus arteriosus

**B. Ventricular septal defect

C. Atrial septal defect

D. Tetralogy of fallot

Which of the following are most consistent with the diagnosis of acute rheumatic fever?

A. Fever, Roth spots and ischemic stroke

B. Malar facial rash, joint aches and fever

**C. Chorea and multiple painful joint swelling

D. Fever, cough and purulent sputum production

A 12-year-old boy comes to the clinic with multiple painful swollen joints with reduced range of motion. Examination shows multiple non-tender subcutaneous nodules.

Which of the following would most probably confirm the diagnosis?

A. Elevated ESR

B. Positive blood culture

C. High C-reactive protein

**D. Elevated antistreptolysin O titer

Which of the following echocardiographic findings is consistent with the diagnosis of acute rheumatic fever?

A. Mitral valve stenosis

B. Aortic valve stenosis

**C. Mitral valve regurgitation

D. Pulmonary valve regurgitation

Which of the following represents the main treatment for symptomatic acute rheumatic fever?

A. Intravenous ampicillin every 6 hours

**B. High dose oral acetyl salicylic acid

C. Daily intravenous hydrocortisone

D. Monthly intramuscular penicillin

A 10-year-old boy is diagnosed with acute rheumatic fever with cardiac involvement.

For how many years is rheumatic fever prophylaxis recommended for this child?

A. 1

**B. 5

C. 10

D. 15

A 9-year-old presents with weakness, fatigue, and hypertension in upper limbs. Examination confirms delayed pulses in lower extremities.

Which of the following is the most likely aetiology?

A. Atrial septal defect

B. Mitral valve prolapse

**C. Coarctation of the aorta

D. Ventricular septal defect

Which of the following congenital heart diseases is associated with the lowest risk of infective endocarditis?

A. Patent ductus arteriosus

B. Ventricular septal disease

C. Subvalvular aortic stenosis (discrete)

**D. Atrial septal defect (ostium secundum)

Which of the following is a component of the Tetralogy of Fallot?

**A. Ventricular septal defect

B. Left ventricular hypertrophy

C. Atrial septal defect

D. Tricuspid stenosis

A 9-month-old infant has a congenital heart lesion but the parents do not know the specific diagnosis. On examination, it was found that the infant has central and peripheral cyanosis.

Which of the following is the most likely diagnosis?

A. Patent ductus arteriosus

B. Coarctation of the aorta

**C. Tetralogy of fallot

D. Atrial septal defect

An infant born to a 36-year-old mother presents with poor feeding, sweating over the forehead, and repeated chest infections. The child has an upward slant of the eyes, delayed mile stones, short stubby fingers, clinodactyly of the little finger, and a single transverse palmer crease. The child is in respiratory distress.

Blood pressure 65/45 mmHg
Heart rate 120 /min
Respiratory rate 45 /min
Temperature 36.8° C

Which of the following is the most likely cardiac anomaly?

A. Tetralogy of fallot

B. Patent ductus arteriosus

**C. Endocardial cushion defect

D. Transposition of great arteries

A 13-year-old boy presents for a physical check-up. He has had normal growth and development and has been able to do the usual activities for his age without difficulty. His older brother had had a sudden cardiac death while walking to work. The boy's examination is normal.

Which of the following must be excluded?

A. Bicuspid aortic valve

B. Patent ductus arteriosus

C. Ventricular septal defect

**D. Hypertrophic cardiomyopathy

Which of the following patients with congenital heart disease would be expected to exhibit cyanosis?

A. 6-year-old girl with coarctation of the aorta

B. 18-month-old boy with a muscular VSD

**C. Term newborn with truncus arteriosus

D. 10-year-old boy with a congenital ASD

A 3-year-old asymptomatic child is examined prior to elective oral surgery. A grade 2/6 low-pitched continuous murmur is heard at the upper right sternal border when the child is sitting; the murmur disappears when the child is supine.

Which of the following is the most appropriate action?

**A. Reassure, murmur is innocent

B. Obtain a cardiac consultation

C. Antibiotic prophylaxis prior to oral surgery

D. Postpone oral surgery and re-evaluate the child

Which of the following findings in a newborn requires immediate treatment?

A. An erupted tooth

B. Breast enlargement

C. Shallow sacral dimple

**D. Absent femoral pulses

A 5-year-old girl is found to have a loud pan-systolic murmur at the lower left sternal border.

Which of the following is the most likely diagnosis?

A. Atrial septal defect

B. Patent ductus arteriosus

**C. Ventricular septal defect

D. Pulmonary valve stenosis

Which of the following ECG abnormalities is an expected finding in ostium secundum atrial septal defect?

A. Delta waves

B. Left axis deviation

**C. Right bundle branch block

D. Left ventricular hypertrophy

Which of the following is characteristic of the cardiac auscultation of a child with an atrial septal defect?

A. S3 gallop

**B. Fixed, widely split S2

C. Continuous murmur

D. Systolic ejection click

A 6-month-old girl presents with difficulty feeding and the parents report that her skin becomes bluish during feeding and crying. Cardiac auscultation reveals a harsh systolic ejection murmur and a loud, single S2.

Which of the following is the most likely diagnosis?

A. Aortic stenosis

**B. Tetralogy of fallot

C. Ventricular septal defect

D. Transposition of the great arteries

A newborn child presents with cyanosis, tachypnea, irritability and difficulty feeding. Physical examination findings are a parasternal heave and a loud, single S2 on cardiac auscultation. No murmurs were heard.

Which of the following is essential in the early management?

A. NSAIDs

B. Diuretics

C. Dopamine

**D. Prostaglandin E1

A 4-month-old boy with down syndrome exhibits poor weight gain, tachypnea, a low-pitched grade 2 systolic murmur and a fixed splitting of S2. Chest X-ray reveals cardiomegaly and increased pulmonary vascularity. Electrocardiography documents biventricular hypertrophy and a superior frontal plane QRS axis.

Which of the following is the most likely diagnosis?

A. Coartation of the aorta

B. Patent ductus arteriosus

C. Ventricular septal defect

**D. Atrioventricular septal defect

A 4-week-old baby presents with tachypnea, tachycardia, differential cyanosis and irritability.

Which of the following is the most common accompanying feature?

A. Cough

B. Ascites

**C. Difficulty feeding

D. Jugular venous distension

Which of the following is the main treatment of Kawasaki disease?

A. Aspirin

B. Ibuprofen

C. Paracetamol

**D. Intravenous Immunoglobulin

A 14-month-old asymptomatic boy has a grade 2 pansystolic murmur detected on a routine consultation. Echocardiography reveals a 2 mm ventricular septal defect in the muscular portion of the septum.

Which of the following is the most appropriate management?

A. Surgical repair

**B. Watchful waiting

C. Afterload reducing agents

D. Interventional cardiac catheterization

A 5-year-old overweight girl has systolic blood pressure above the 95th percentile and has a family history of hypertension. Physical examination reveals a strong radial pulses and weak femoral pulses.

Which of the following is the most likely diagnosis?

A. Pheochromocytoma

B. Renal artery stenosis

C. Essential hypertension

**D. Coarctation of the aorta

A 9-month-old child is brought to the Emergency Room due to low-grade fever, cough, and nasal congestion for several days. The previous night, her cough sounded "barky" like a seal and her parents are now worried about her ability to breathe. She has more difficulty breathing when she becomes upset and cries. On examination, she appears well hydrated without acute respiratory distress. However, audible breath sounds are noted when she began to cry with high-pitched barking cough.

Which of the following is expected to be heard upon pulmonary auscultation?

A. Overall decreased breath sounds

B. Prominent expiratory wheezing and prolonged expiration

**C. Prominent inspiratory sounds due to subglottic airway narrowing

D. Prominent inspiratory sounds due to mucus deposition in the large airways

A 12-day new-born girl is brought to Emergency Department. Her mother complaining that the girl turns blue when she cries. After examination and investigation, the paediatrician explains to the mother that she had a congenital heart disease called Fallot's tetralogy.

Which of the following is a part of Fallot tetralogy?

**A. Pulmonary stenosis

B. Aortic valve stenosis

C. Interatrial septal defect

D. Hypertrophy of left ventricle

An 8-year-old child is brought to the clinic for a routine physical examination. During the exam, the physician notes a cardiovascular murmur that is high pitched and heard best at the midsternal border and late systolic in timing. The pattern is crescendo-decrescendo in nature.

Which of the following is the most likely type of murmur?

A. Systolic regurgitation

**B. Systolic ejection

C. Physiologic

D. Innocent

A 12-year-old boy comes to the clinic with symptoms of unnatural tiredness and exertional dyspnoea. He has a past history of myopia. On physical examination, he has scoliosis and a pectus excavatum (see report).

Height above the 90th percentile
Weight below the 25th percentile

Echocardiography:
Mitral valve prolapse and dilatation of the ascending aorta.

Which of the following is the most likely diagnosis?

A. Aortic dissection

**B. Marfan Syndrome

C. Congenital syphilis

D. CHARGE association

Which of the following drugs would be most suitable for a 7-year-old child with absence seizures?

A. Phenytoin

**B. Ethosuximide

C. Phenobarbital

D. Carbamazepine

A 9-year-old boy referred to his local hospital with a history of fever, headache, prostration and nuchal rigidity. Gram stain done on the CSF smears shows gram positive cocci.

Which of the following CSF findings is consistent with this diagnosis?

A. Numerous lymphocytes, decreased glucose, normal protein

B. Numerous neutrophils, increased glucose, normal protein

C. Numerous lymphocytes, normal glucose, decreased protein

**D. Numerous neutrophils, decreased glucose, increased protein

A 6-year-old girl presents to the Paediatrics Emergency Department with an unsteady gait and progressive difficulties climbing stairs over the last 10 days. The parents reports that the child has been repeatedly choking on her saliva. The symptoms began with a prickly sensation in the fingers and toes that came along with an ascending and symmetric numbness. There is a history of viral gastroenteritis 3 weeks before. Physical examination confirms absence of the knee jerk reflex (see reports).

CSF Analysis:

Elevated protein concentration with a normal cell count.

Nerve Conduction Test:
Reduced velocity.

Which of the following is most likely long term prognosis?

A. Respiratory failure

B. Residual weakness

**C. Complete recovery

D. Progressive paralysis

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CSF Analysis:
Elevated protein concentration with a normal cell count.

Nerve Conduction Test:
Reduced velocity.

Which of the following is the most appropriate treatment?

A. Plasma exchange

**B. Immunoglobulin

C. Methotrexate

D. Steroids

A 6-month-old boy is brought to the clinic for follow up. He has active seizures and is on anti-epileptic medications. On examination, he has dysmorphic features; is hypotonic and does not roll over or sit up with support. He does not seem to be fixing and following.

How shall the immunization schedule be modified?

A. Give IPV instead of OPV

**B. Defer the DTP vaccine

C. Defer all live vaccines

D. Defer all vaccines

Cerebral palsy is a non-progressive disorder of motion and posture.

Which one of the following risk factors is the most significant?

A. Prematurity

B. Perinatal asphyxia

**C. Birth weight less than 1.5 Kg

D. Genetic/Metabolic/Metabolic abnormalities

A full-term infant developed bilateral conjunctivitis at 2 weeks of age. The conjunctivitis is followed by severe coughing but the infant remained afebrile. When the infant was 4 weeks old, a chest X-ray showed bilateral symmetrical interstitial infiltrates (see lab results).

Test Result Normal Values
WBC 14 4.5-10.5 x 109 /L
Neutrophils 32 40-60%
Lymphocytes 15 20-40 %
Monocytes 2 2-8 %
Eosinophils 4 1-4 %
IgG 30 7.5-19 g/L
IgA 8 1-4 g/L
IgM 3.5 0.52-1.52 g/L

Which of the following is the most probable infectious agent?

A. Streptococcus agalactiae

B. Haemophilus influenzae

**C. Chlamydia trachomatis

D. Adenovirus

A 7-year-old child is brought to the clinic with fever, headache and vomiting of 2 days. On examination, there is meningeal irritation. A lumbar puncture is done (see lab results and report).

CSF Analysis
Test Result Normal Values
Total Protein 560 150-450 mg/L
Glucose 2.9 2.50-4.8 mmol/L

Bacteriology Report:
Gram positive cocci in pairs.

Which of the following antibiotic combination would be most appropriate?

A. Penicillin and vancomycin

B. Vancomycin and rifampin

C. Ampicillin and gentamicin

**D. Ceftriaxone and vancomycin

A 3-day-old baby is brought to the clinic with fever, vomiting and hypothermia. Prior to labour his mother was febrile. He was examined and lumbar puncture was performed (see report).

Cerebrospinal Fluid Gram stain:
Showed Gram positive bacilli and on culture it was Beta hemolytic and catalase positive.

Which of the following antibiotics should be started empirically?

A. Meropenem

B. Cefotaxime

C. Gentamicin

**D. Ampicillin

Group B streptococci are a common cause of neonatal meningitis. Vaginal swab for group B streptococci is recommended in pregnant mother.

At which gestational age should the vaginal swab be collected?

A. 15 weeks

B. 25 weeks

**C. 35 weeks

D. 40 weeks

A 9-year-old boy who presents to the Emergency Department with fever, headache, sore throat, and vomiting. He recently arrived from Africa with his parents. On examination, he shows abnormal reflexes, stiff neck and difficulty in lifting his head and legs when he was lying flat on his back. His laboratory investigations show a clear CSF with lymphocytosis, normal glucose level, and normal protein level. No bacteria were seen.

Which of the following is the most likely organism responsible for his illness?

**A. Poliovirus

B. Coronavirus

C. Cytomegalovirus

D. Epstein-Barr virus

A 15-month-old child is brought to the clinic with one day of fever and vomiting. A lumber puncture is performed (see lab results and report).

CSF exam
Test Result Normal Values
Total protein 300 150-450 mg/L
Glucose 3 2.50-4.8 mmol/L
Cells 1200 0-3 /µL

CSF Culture:
Gram positive cocci in chains, pus cells and WBCs with a predominance of Neutrophils.

Which of the following is the most appropriate antibiotic or antibiotic combinations?

A. Ampicillin

B. Vancomycin

C. Ampicillin and gentamicine

**D. Ceftriaxone and vancomycin

A 4-month-old girl is brought to the Paediatric Clinic for a routine monthly exam. The baby smiles back at people and imitates facial expressions. She uses eyes and hands together and reaches out with one hand for a toy. There is babbling along with a facial expression. The girl pushes up to her elbows when lying on the tummy.

Weight 7300 grams (=50th percentile)
Length 67 cm (=75th percentile)

Which additional developmental milestone is most likely to have?

**A. Hold head steady without support

B. Roll over in both directions

C. Make crawling attempts

D. Sit without support

A 4-year-old healthy child is found in the kitchen, comatose and cyanotic with peanuts in his hands.

Which of the following is the most likely cause?

**A. Choking secondary to aspiration

B. Trauma with CNS bleed

C. Overwhelming sepsis

D. Postictal state

A 12-year-old child presents to the clinic with a worsening history of severe headaches that are unilateral, pulsating, exacerbated by movement, and aggravated by light.

Which of the following is the most likely type of headache?

**A. Migraine

B. Cluster

C. Stress

D. Sinus

A 16-year-old boy comes to the clinic complaining of severe headaches twice a week. He describes the pain like a tight band around the head with pressure behind the eyes with a throbbing and bursting sensation. The patient has been stressed with school work and sports.

Which of the following is the most likely diagnosis?

A. Sinus headache

**B. Tension headache

C. Vascular headache

D. Migraine headache

A 16-year-old girl presents with throbbing headaches that last for 2 hours and occurs 3 to 4 times a week. The headaches are usually unilateral, begins with nausea, and exacerbated by noise and light. A recent brain CT scan was normal.

Which of the following should be used to treat acute symptoms?

A. Levofloxacin

**B. Sumatriptan

C. Meclizine

D. Aspirin

A 12-year-old girl comes to the clinic after developing progressive weakness and inability to walk. She has intermittent tingling of her fingers and toes. History reveals she had 3 days of diarrhoea about 2 weeks ago. Physical examination confirms marked peripheral muscle weakness without atrophy or fasciculation. The ankle and patella reflexes are absent, and a sensory examination is normal. Motor involvement is symmetric.

Which of the following is the most likely diagnosis?

**A. Guillain-Barré syndrome

B. Mononeuritis multiplex

C. Myasthenia gravis

D. Polio

A 12-year-old boy presents with difficulty walking for the last 2 days. He states that this weakness was preceded by pain in the muscles and a tingling sensation that started down the lower limb but kept ascending upwards to the upper limbs. He gave a history of a preceding upper respiratory tract infection 2 weeks before. On examination, he had total areflexia of both upper and lower limbs, with moderate sensory involvement.

Which of the following is the most likely diagnosis?

A. Viral myelitis

B. Epidural abscess

C. Transverse myelitis

**D. Guillain-Barré syndrome

A 6-year-old child is brought to the clinic with sudden onset of a clumsy gait and an inability to stand or walk without support. The child is irritable and has been vomiting over the last 3 days and had chickenpox 3 weeks before. Muscle strength testing does not reveal any abnormality, but there is a resistance to neck flexion.

Which of the following disorders is most likely present?

A. Friedrich's ataxia

B. Meningoencephalitis

**C. Acute cerebellar ataxia

D. Guillain-Barré syndrome

A 4-year-old child is brought to the clinic for a check-up. When performing a cover test, the child's left eye moves laterally when the right eye is covered.

Which of the following is the most serious complication?

A. Strabismus

B. Nystagmus

**C. Amblyopia

D. Leukocoria

A 6-month-old baby is brought by his mother for assessment of feeding difficulties and constipation. On examination, the baby's growth curve is below the 25th percentile, and there is a marked delay in his milestones. He had spastic tone all over, with crossed legs, but both arms were less spastic.

Blood pressure 90/50
Heart rate 120 /min
Respiratory rate 22 /min
Temperature 36.6° C

Which of the following cerebral palsy types is most likely to have?

A. Mixed

**B. Diplegic

C. Hemiplegic

D. Quadriplegic

A 3-year-old child falls out of a bunk bed. The child cries immediately, and there is no apparent loss of consciousness. Then he vomited twice and complains of a headache. The child has a normal mental status, normal neurological examination, and no evidence of a skull fracture.

Which of the following is the most appropriate next step in management?

A. Brain magnified resonance imaging

B. Brain computed tomography scan

C. Neurosurgical consultation

**D. Close observation

A 9-month-old baby is brought to the Well-Baby Clinic. He is unable to sit, and on examination his hands are fisted and his legs are crossed. His mother said that he did not cry after the birth and resuscitation.

Which of the following is consistent with these findings?

A. Normal child

**B. Cerebral palsy

C. Down syndrome

D. Congenital hypothyroidism

A full term baby born to a diabetic mother is brought to the clinic for assessment. The baby was born by vaginal delivery. The Moro reflex is absent on the right side. Baby weight is 4.8 Kg.

Which of the following is the most likely cause?

A. Intracranial haemorrhage

B. Neonatal hypoglycaemia

C. Neonatal sepsis

**D. Erb's palsy

When assessing an adolescent girl with a body mass index at the 95th percentile for age and sex.

Which of the following action should be taken?

A. Avoid discussion of weight

**B. Initiate a multidisciplinary plan

C. Provide a list of low-calorie foods

D. Confirm size larger than those of same age

A child is brought for a health maintenance check. The parent states that the child sits up alone without support, pulls himself into a standing position, explores around furniture, crawls without difficulty, grasps objects with a thumb and forefinger, uses repetitive consonants such as "dada", and responds to the sound of his own name.

What age in months is the child most probably at?

A. 8 months

**B. 10 months

C. 12 months

D. 14 months

A 6-month-old child is brought to the paediatrician for a well-child visit. The infant was born at full term after a normal pregnancy and spontaneous vaginal delivery. The linear growth and the amount of weight gained over the past 6 months are both appropriate. The mother began feeding the infant pureed baby foods approximately 1 month before while also continuing breast feeding. The infant has been well since birth. The physical examination is normal for age. A developmental screening exam is performed.

Which of the following gross motor skills is most appropriate at his age?

A. Sits without support

B. Stands while holding onto support

C. Rolls from prone to supine position

**D. Rolls from supine to prone position

By what age in months should a child learn to speak a few words?

A. 3

B. 6

**C. 12

D. 24

By what age in months should a child smile?

A. 1

B. 2

**C. 4

D. 6

A child is brought for a well-child visit. He is healthy and developing normally. The child can name 4 colours, define 5 words, understand prepositions, hops on 1 foot, and gets dressed with little assistance.

What developmental age in months is this most consistent with?

**A. 48

B. 36

C. 24

D. 18

A 10-year-old child presents with pain over the tibial tubercle. The child has recently had a growth spurt.

Which of the following is the most likely diagnosis?

A. Legg-Calve-Perthes disease

**B. Osgood-Schlatter disease

C. Stress fracture

D. Shin splints

A 9-year-old child has been declining in school performance for several months due to lack of attention and "daydreaming" in class. The child, of average intelligence, has brief spells of staring into space that last 10 or 15 seconds. They occur several times an hour but the child seems quite unaware of these incidences. EEG reveals frontally predominant, generalized 3-Hz spike and wave complexes.

Which of the following drugs is most likely to be effective?

A. Phentoin

B. Imipramine

**C. Ethosuccimide

D. Catbamazepine

A 7-day-old baby is brought to the clinic for a check-up. The mother raised the concern that his current weight is 3.1 Kg while his birth weight was 3.5 Kg. She is breastfeeding him every 2 to 3 hours for 10-15 min with good sucking. Physical examination is normal.

Which of the following is the most appropriate management?

A. Maternal nutrition counselling

**B. Reassure the mother all is normal

C. Admit baby for further investigation

D. Routine tests and reassess in one month

Which of the following language milestones is appropriate for a 4-year-old child?

A. Speaks 50-100 words

B. Can use the future tense

C. Speaks 2-word sentences

**D. Can count to 4 and tell a story

A mother of a 3-year-old child asks about his language development. He easily communicates with other children and 75% of his speech is understood by strangers. He asks questions frequently and follows 2-part commands.

What is the best description of this language development?

A. Receptive language delay

B. Developmental disfluency

C. Expressive language delay

**D. Normal development for age

In a prone position, an infant can lift his head 45° off the examination table and moves his head from side to side while following an object. He smiles and coos when the doctor plays with him, but cannot maintain a seated position.

What is the age in months this child most likely at?

A. 1

**B. 3

C. 6

D. 9

During a routine check-up, a child shakes hands, knows his name, gender and age. He can dress with help and ride a tricycle. He points to red colours when asked to do so but had difficulty copying a square.

What is the age in years this child most likely at?

A. 2

**B. 3

C. 4

D. 5

An infant sits in the tripod position, can roll from prone to supine and vice versa and attempts to reach a toy beyond reach but cannot pick up cereals between 2 fingers.

What developmental age in months is this most consistent with?

A. 2

B. 4

**C. 6

D. 9

A child enters the clinic and says "hi" to the doctor then turns to the mother and says "milk". The mother gives her a bottle of milk, and the child tries to give her doll a drink. The mother shakes her head, and the child says "no". After which the child smiles and points to her own mouth and says "mouth". When her mother wipes the doll's face, the child says "me" and begins to imitate the mother's action and gives the doll a hug.

What developmental age in months is this most consistent with?

A. 12

B. 15

**C. 18

D. 24

A 9-year-old boy is brought for a check-up. Parents are worried because he is short. On examination, his height is below the 5th percentile for his age but increasing steadily. The parents ask if he will always be short in the future.

What is the most important factor to answer the question?

A. Sibling heights

**B. Parental height

C. Weight for height and age

D. Upper to lower segment ratio

When a mother placed her infant on the examining table, the infant laughs out loudly. As the doctor approaches him, he squeals and reaches for his mother.

What is the most likely developmental month for this child?

A. 2

**B. 4

C. 6

D. 8

A child accompanied by his parents walked into the examination room. He is holding a ball. The doctor asks to let him see the ball; he threw the ball towards the doctor. Then he reaches out to catch it when the doctor threw the ball back to him. He draws a straight line on the paper and then picks up a few blocks from the floor and stacks one on the top of the other.

What is the most likely developmental month for this child?

A. 9

B. 12

C. 15

**D. 18

A child's developmental assessment conforms the following (see table).

Motor	Walks alone, crawls up stairs
Adaptive	Makes a tower of three cubes, makes a line with crayons
Language	Jargon, follows simple commands
Social	Indicates desire by pointing

Which of the following is the most likely age in months?

A. 6

B. 9

**C. 15

D. 24

Which of the following is a developmental screening tool that relies only on information from the parents?

A. Brigance screens - II

**B. Ages and stages questionnaire

C. Bayley scales of infant development

D. Safety word inventory and literacy screener

While in the clinic, a child demonstrates an ability to run, is able to open a door and climb onto furniture. The child uses 3-word sentences, but does not know his full name and does not climb up stairs using alternate feet.

Which of the following is the approximate age in years?

A. 1

**B. 2

C. 3

D. 4

An infant lies with his head to one side and raises his head slightly, but the head lags when pulling up to a sitting position. The infant smiles when involved in social interactions and follows moving objects 180 degrees, but does not attempt to reach for them.

What is the approximate developmental age in weeks?

A. 4

**B. 8

C. 12

D. 16

While at the clinic, an infant crawl toward the doctor, rolls over, sits briefly, transfers objects from hand to hand and grasps objects using his radial palm. The infant is unable to use a pincer grasp.

What is the approximate age in months?

A. 3

B. 5

**C. 7

D. 9

A child walks with one hand held, says a few words besides "mama" and "dada", and picks up pellets with an unassisted pincer grasp, but does not insert them into a bottle.

What is the approximate age in months?

A. 7

B. 9

**C. 12

D. 15

While in the clinic, a child runs towards the doctor, walks upstairs with one hand held and pours out pellets from a bottle. The child does not handle a spoon well and cannot put 3 words together.

What is the approximate age in months?

A. 12

B. 15

**C. 18

D. 24

During a health supervision examination, a mother reports that her son can say his name, feeds himself, separates easily from parents and rides a tricycle.

What is the developmental age in years?

A. 2

**B. 3

C. 4

D. 5

A 5-month-old baby referred to the doctor from the Well-Baby Clinic. His mother is concerned, because he could not pass the developmental screening tests done by the nurse.

What is the best developmental test would help the doctor to reassure the mother?

A. Waves goodbye

B. Has pincer grasp

C. Sits independently

**D. Reaches for objects

Which of the following can the average 3-year-old child perform?

A. With alternating feet catch a ball

B. Know days of the week

C. Trace a triangle

**D. Climb stairs

Which of the following is the most typical milestone for a 4-year-old child?

A. Write the first name

B. Copy a square and triangle

**C. Speak clearly in sentences

D. Prefer solitary or parallel play

A 6-year-old boy is brought the Emergency Department after falling down 1 flight of stairs and hitting the floor with his head. On examination, he is alert, oriented and has no focal neurological findings. There is blood coming out of his left ear (see report).

Otoscopy:
Confirms a ruptured eardrum on the left side with bleeding. The external auditory canal is intact.

Which of the following is the most likely diagnosis?

**A. Basilar skull fracture

B. Subdural hematoma

C. Subarachnoid haemorrhage

D. Intraventricular haemorrhage

A 12-year-old girl presents with tiredness, frequent ptosis and diplopia. She has no myalgia or fasciculation and her deep tendon reflexes are 1-2+. She reports that the symptoms become worse as the day progresses and that she feels better in the morning.

Which of the following is the most likely pathophysiology?

A. Ingestion of botulinum toxin

**B. Antibodies against the AChRs

C. Mutation in the dystrophin gene

D. Antibodies against thyroid peroxidase

A 15-month-old child is brought to the Emergency Department after having a generalized tonic-clonic seizure that lasted approximately 5 minutes. The parents say that the child had been previously well but developed cough and rhinorrhoea earlier that day with a temperature of

39.2° C.

Which of the following is the most appropriate management?

A. Diazepam

B. Phenytoin

C. Head CT scan

**D. Control of the fever

Which of the following findings is expected in a 6-year-old boy with Duchenne muscular dystrophy?

A. Pes cavus

B. Claw hands

C. Muscle atrophy

**D. Positive gower's sign

An apparently normal child is being evaluated. He runs around, tells short stories and plays a "father role". He draws his brother with a head, hands and feet. He undresses himself for the examination.

What is the most likely age of this child?

A. 2

B. 3

**C. 4

D. 5

A 15-year-old boy is diagnosed with diabetes mellitus type 1 and prescribed insulin. He and his family were educated about the use and recognition of adverse effects of insulin.

Which side effect would be most important to receive education on?

**A. Hypoglycemia

B. Lipodystrophy

C. Hyperlipidemia

D. Hypersensitivity

An 8-year-old boy presents for follow up. He was diagnosed with diabetes mellitus type 1 a month ago. He is compliant with his insulin dose. Physical examination is normal.

Blood pressure 115/75 mmHg
Heart rate 88 /min
Respiratory rate 16 /min
Temperature 37.2° C

When should an ophthalmology evaluation performed?

A. Immediately

B. After 1 year

C. After 3 years

**D. After 5 years

A 12-year-old boy with diabetes mellitus type 1 has been having recurrent attacks of hypoglycaemia for the last 2 weeks. They occur at different times of the day. He is compliant with his insulin dose and follows his dietary advice since diagnosis 2 months ago. On physical examination, he is normal.

Blood pressure 125/85 mmHg
Heart rate 85 /min
Respiratory rate 16 /min
Temperature 37.2° C

Which of the following is the most likely explanation?

A. Brittle diabetes

B. Dawn phenomenon

**C. Honey-moon period

D. Somogyi phenomenon

An 11-year-old patient presents with increased thirst, hunger and urinary frequency. The patient has had nothing to eat or drink for 3 hours before the clinic visit. Examination is unremarkable (see lab result).

Blood pressure 110/70 mmHg
Heart rate 76 /min
Respiratory rate 18 /min
Temperature 36.6° C

Test Result Normal Value
Random Glucose 25.5 3.9-5.5 mmol/L

Which of the following is the most likely cause?

A. Elevated renin

B. Elevated insulin

**C. Decreased insulin

D. Absence of glucagon

A 3-day-old infant is brought to the Paediatrics Clinic with refusal to feed, vomiting and inactivity. The infant was born at term with no perinatal problems. The infant's urine smells like burned sugar.

Which of the following is the most likely diagnosis?

**A. Maple syrup urine disease

B. Urinary tract infection

C. Urea cycle disorder

D. Phenylketonuria

A 14-year-old boy has developed unilateral gynecomastia which makes him embarrassed.

Which of the following is the most appropriate advice?

**A. Reassurance that most cases resolve within a few years

B. Explaining that majority of men have this condition to a certain degree

C. Using a compression bandage at night

D. Decreased intake of soy protein

A 9-year-old boy is brought to the clinic. The mother is concerned that her child is short. She appears to be short. In a systemic review, he is asymptomatic. Physical examination is normal (see lab results and report).

Blood pressure 130/85 mmHg
Heart rate 75 /min
Respiratory rate 16 /min
Temperature 37.2° C
Weight 25 kg
Height 120 cm

Test Result Normal Values
Thyroid stimulating hormone 3.2 0.4 - 5.0 μU/L
Follicle stimulating hormone 1.4 1.0-1.6 IU/L
Luteinizing hormone 0.1 0.05-0.5 IU/L
Growth hormone 4.9 2-10 μg/L
Free Testosterone 38.2 10.4-41.6 nmol/L
Insulin like growth factor -1 18 67-405 ng/mL

X-ray of left wrist and hand:
The bone age is as a 6-year-old child.

Which of the following is the most likely diagnosis?

A. Failure to thrive

B. Familial short stature

**C. Growth hormone deficiency

D. Constitutional delay of growth

A 9-year-old boy is brought to the clinic. The mother is concerned that her son is not eating well since early childhood. He is being teased for being small by his peers in the school. The mother has small body built and is short. In a systemic review, he is asymptomatic. Physical examination is normal (see lab results and report).

Blood pressure 130/85 mmHg
Heart rate 75 /min
Respiratory rate 16 /min
Temperature 37.2° C
Weight 25 kg
Height 120 cm

Test Result Normal Values
Thyroid stimulating hormone 3.2 0.4 - 5.0 µU/L
Follicle stimulating hormone 1.4 1.0-1.6 IU/L
Luteinizing hormone 0.1 0.05-0.5 IU/L
Growth hormone 4.9 2-10 µg/L
Free Testosterone 38.2 10.4-41.6 nmol/L
Insulin like growth factor -1 18 67-405 ng/mL

X- ray of left wrist and hand:
The bone age is as a 7-year-old child.

Which of the following is the most appropriate management?

A. High caloric diet

**B. Growth hormone

C. Octerotide acetate

D. Behavioural therapy

A 5-year-old girl started growing pubic hair and an adult body odour 8 months ago. Examination shows her height is at the 75th percentile, weight is at the 95th percentile, and there was no acne or clitoromegaly.

Which of the following is the most important initial screening study?

A. Dehydroepiandrosterone sulphate

**B. Follicle stimulating hormone

C. 17-hydroxyprogesterone

D. Testosterone

Which of the following hormonal assay is routinely recommended for newborns?

A. Prolactin level

B. Testosterone level

C. Insulin growth factor

**D. Thyroid function test

A 4-year-old boy presents with fever and abdominal pain after a fall on his right side a day ago. His mother noticed that his abdomen appears distended today, particularly on the right side. Examination shows a pale and hypertensive boy.

Which of the following is the most likely diagnosis?

A. Liver contusion

B. Pyelonephritis

**C. Neuroblastoma

D. Wilm's tumour

A 14-year-old girl has been diagnosed with Turner's syndrome.

Which of the following disorders is most likely to have?

**A. Hypothyroidism

B. Addison's disease

C. Diabetes mellitus

D. Hyperprolactinemia

A 15-year-old boy is diagnosed with diabetic ketoacidosis.

Which of the following types of insulin is used in acute management?

A. NPH

B. Aspart

**C. Regular

D. Ultralente

A 13-year-old girl comes to the clinic with her mother. The mother is anxious about her small stature. The girl had been born at full term with a birth weight of 3.5 kg. The subsequent physical development has been normal. There is no family history of any significant health problems. There is no sign of breast development or pubic hair growth.

Height 152 cm (25th percentile)
Weighs 37 kg (10th percentile)

Which of the following is the most likely cause?

A. Chromosomal

**B. Constitutional

C. Psychological

D. Hormonal

A 12-year-old girl presents for a routine physical exam. She is found to have a thyroid nodule about 4 cm in diameter. There is no pain, hoarseness or local symptoms. Serum TSH is normal, and fine needle aspiration was inadequate.

Which of the following is the most appropriate next step in management?

A. Thyroid scan

B. Clinical follow up

C. Total thyroidectomy

**D. Repeat fine needle aspiration

A 10-year-old boy presents to the Paediatric Clinic with weight loss of 4 kg over the last 3 weeks. The parents report that he had had little appetite and had wet his bed several times in the last week. The child has previously been healthy and there is no history of any major illness. The child appears lethargic and irritable. Physical examination confirms reduced skin tone and dry mucous membranes (see lab results).

Blood pressure 100/60 mmHg
Heart rate 80 /min
Respiratory rate 50 /min
Temperature 37.0° C
Weight 28 kg (10th percentile)
Height 104 cm (50th percentile)

Test Result Normal Values
pH 7.2 7.36-7.45
Glucose 20 3.5-5.5 mmol/L

Urinalysis Result Normal Values
Ketones Positive Negative

Which of the following is the initial line of management?

A. Electrolyte replacement

B. Bicarbonate treatment

**C. Fluid replacement

D. Insulin infusion

A 4-year-old girl is brought to the Paediatrics Emergency Department with vomiting and lethargy. The parents report a weight loss of 1 kg over the last 2 weeks. There has been little appetite, but a lot of thirst and frequent urination. The child appeared sleepy and irritable. Physical examination confirmed dry mucous membranes and a generally reduced skin tone. After running several exams, the paediatrician started IV treatment with ringer lactate plus added electrolytes and a low-dose insulin infusion (see lab results).

Test Result Normal Values
pH 7.2 7.36-7.45
Glucose 20 3.5-5.5 mmol/L

Urinalysis Result Normal Value
Ketones Positive Negative

Which of the following complications should be observed?

A. Hypoglycemia

B. Kidney failure

**C. Cerebral edema

D. Metabolic alkalosis

A 3-year-old girl is brought to the clinic with weight loss of 1 kg over the last 2 weeks in spite of increased appetite and thirst. The parents report that the child has been tired and moody lately. The frequency of wet diapers had increased significantly. Physical examination confirms dry mucous membranes and a generally reduced skin tonus. The genito-anal zone is reddened and inflamed (see lab result).

Blood pressure 90/60 mmHg
Heart rate 70 /min
Respiratory rate 60 /min
Temperature 36.8° C

Test Result Normal Values
Glucose 25 3.5-5.5 mmol/L

Which of the following diagnostic tests is most important?

A. Glycosylated hemoglobin

B. Full blood cell count

C. HLA DR3 antigen

**D. Urine dip stick

A 12-year-old girl is diagnosed with type 1 diabetes 3 years earlier presents for a routine examination. She is on a basal bolus regime which she manages well. The total daily insulin dose is 32 units. Physical examination shows no abnormal findings. There are no signs of puberty (see lab result).

Weight 40 kg (<50th percentile)
Height 156 cm (75th percentile)

Test Result Normal Value
Glucose 6.0 3.5-5.5 mmol/L

Which of the following screening tests should be performed annually?

**A. Ophthalmoscopy

B. Test for celiac disease

C. Growth hormone test

D. Ultrasound of kidneys

A 3-week-old girl presents with repeated vomiting over the last 4 days. The child was born full-term with a weight of 3.3 kg and weighs now 3 kg. There is no family history of any significant illness. Physical examination confirms reduced skin turgor and weak muscle tone. The external genitalia showed an abnormally enlarged clitoris. The paediatrician initiates intravenous treatment with isotonic sodium chloride solution (see lab results).

Test Result Normal Values
pH 7.25 7.36-7.45
Sodium 120 134-146 mmol/L
Potassium 5.8 3.5-5.1 mmol/L
Glucose 2.9 3.3 -5.5 mmol/L

Which of the following intravenous treatment is most appropriate?

A. Cefotaxime

B. Vasopressin

C. Sodium bicarbonate

**D. Hydrocortisone

A 2-week-old boy is brought tp the Paediatrics Clinic for a routine exam. The child was born at 41 weeks' gestation and has been exclusively breastfed. Physical examination confirms large fontanels and an umbilical hernia. The muscle tone is reduced. The skin feels cool and dry and there is generalized jaundice. The infant's tongue appeared large for his mouth.

Which of the following disorders is most likely to be found?

A. Congenital adrenal hyperplasia

**B. Congenital hypothyroidism

C. Biotinidase deficiency

D. Galactosemia

A 7-year-old girl is brought to the Paediatric Outpatient Clinic because she is already showing breast development, appearance of pubic hair and acne. She is otherwise asymptomatic.

Which of the following is the most likely diagnosis?

A. Ovarian tumour

**B. Central precocious puberty

C. Gonadotropin-releasing tumour

D. Lesion in central nervous system

A 12-year-old obese boy is being observed in the Paediatric Outpatient Clinic as he has short stature, purple striae over his abdomen and hips, and hypertension.

Which of the following is the most important initial investigation?

A. MRI of the brain

B. Adrenal scintigraphy

C. MRI of the adrenal glands

**D. Morning and evening cortisol levels

Which of the following is usually the first sign of puberty in boys?

A. Acne

B. Pubic hair

C. Penile enlargement

**D. Testicular enlargement

In which of the following conditions would you expect a bone age greater than the chronologic age?

A. Hypothyroidism

B. Chronic renal failure

C. Familial short stature

**D. Congenital adrenal hyperplasia

A 15-year-old girl presents to the clinic with her mother. The mother is concerned because she has never menstruated. On examination, the child has a short stature, short neck with a low hairline and hypertension. Her parents' stature is below average.

Which of the following is the most likely diagnosis?

A. Hypothyroidism

B. Hypopituitarism

**C. Turner syndrome

D. Familial short stature

A 2-week-old baby is brought to the clinic by the mother. She is concerned that her baby has little appetite, only passes stool once in 48 h and is always very sleepy and sluggish. On physical examination, the child has a distended abdomen with an umbilical hernia and mildly jaundiced.

Which of the following is the most appropriate next step in investigation?

**A. Neonatal metabolic screen

B. TSH and T4 of the newborn

C. TSH and T4 levels of the mother

D. Thyroid autoantibodies in the mother

A 16-year-old adolescent girl complains of galactorrhea for 3 months. Her menarche was at age 13 years and her menstrual cycles have been regular until two months ago. On examination, she is at Tanner stage 2.

Which of the following is the most appropriate hormone to measure first?

**A. Prolactin

B. Oestrogen

C. Progesterone

D. Luteinizing hormone

A 10-year-old girl is admitted to the Paediatric ICU after a car accident with extensive head trauma. 12 hours after being admitted she develops increased urine output, 100 ml/h (see lab results).

Temperature 36.9°C
Heart rate 102/min
Blood pressure 120/70 mmHg
Respiratory rate 18/min

Test Result Normal Value
Serum osmolality 326 280-300 mmol/kg

24 Urine Analysis Result Normal Value
Osmolality 90 280-910 mOsm/Kg H2O

Which of the following is the most likely diagnosis?

**A. Central diabetes insipidus

B. Nephrogenic diabetes insipidus

C. Excessive intravenous fluid administration

D. Syndrome of Inappropriate Antidiuretic Hormone Secretion

A 5-year-old girl presents to the clinic with pallor and irritability. On examination, she has mild jaundice and her spleen was enlarged by 4 cm (see lab results).

Test Result Normal Values
RBC 4.4 4.6-4.8 x 1012/L

Hb 82 112-165 g/L
Reticulocyte 9 0.2-1.2 %
MCH 39 28-33 pg/cell
MCV 80 80-95 fl

Peripheral blood smear
Test Result
Microspherocytes ++
Anisocytosis Mild

Which of the following is the most likely diagnosis?

A. Biliary obstruction

B. Sickle cell anaemia

**C. Hereditary spherocytosis

D. Autoimmune haemolytic anaemia

A 3-year-old boy presents to the Outpatient Department with the complaint of lethargy and failure to thrive (see lab results.)

Test Result Normal Values
RBC 4.6 4.6-4.8 x 1012/L
Hb 88 112-165 g/L
Reticulocyte 5 0.2-1.2 %
MCH 24 28-33 pg/cell
MCV 65 80-95 fl

Which of the following is the most appropriate management?

A. Blood transfusion

B. Intramuscular iron

**C. Oral ferrous sulfate

D. Iron fortified cereal

A 29-year-old woman gave birth to a boy who is severely jaundiced. She already has two children who were normal at birth. The woman has A-negative blood group and the newborn tested to be O-positive.

Which of the following is the most likely cause?

A. Maternal anti-RhD antibodies causing placental damage

B. Fetal anti-RhD antibodies causing agglutination of fetal RBCs

C. Fetal anti-RhD antibodies causing agglutination of maternal RBCs

**D. Maternal anti-RhD antibodies causing agglutination of fetal RBCs

A 2-week-old newborn presents to the Outpatient Department with mild jaundice of skin and conjunctivae that had begun 6 days ago. The baby was born full-term following a normal pregnancy and uncomplicated birth. Her birth weight was 3.45 kg. The girl is exclusively breastfed and gaining weight properly. No pathologic findings are evident on physical examination. Ultrasound examination of liver and biliary systems is normal (see lab results).

Test Result Normal Values
Indirect bilirubin 20 <19 μmol/L
Direct bilirubin 1 <10 μmol/L
Alanine aminotransferase 25.8 13-45 U/L
Aspartate aminotransferase 23.7 12-40 U/L

Which of the following is most appropriate initial management?

**A. Observation

B. Phototherapy

C. Exchange transfusion

D. Phenobarbital treatment

Which of the following is most appropriate management for Hirschsprung's disease?

**A. Surgical resection

B. Dietary alteration

C. Antibiotic therapy

D. Immuno-supressive agents

A 3-week-old infant is brought to the Paediatrics Clinic. On examination, a right, non-tender scrotal mass is seen. It is non-reducible and not transparent to light.

Which of the following is the most likely diagnosis?

A. Orchitis

B. Hydrocele

**C. Inguinal hernia

D. Testicular torsion

An 8-year-old boy presents to the Paediatrics Clinic with a history of recurring abdominal cramps and diarrhea over the last 3 months. His height and body weight had fallen from the 25th to the 3rd percentile during this same period. He has a decreased appetite and feels full after having eaten small quantities of food. Physical examination shows diffuse abdominal tenderness and a perineal fissure. There are no other abnormal findings (see reports)

Blood pressure 100/60 mmHg
Heart rate 80 /min
Respiratory rate 20 /min
Temperature 38.0° C

Colonoscopy:
Non-contiguous lesions in the proximal colon and terminal ileum.

Biopsy proximal colon:
Transmural inflammation.

Which of the following is the most likely diagnosis?

**A. Crohn's disease

B. Ulcerative colitis

C. Behçet's syndrome

D. Pseudomembraneous colitis

A 10-year-old girl presents to the Paediatrics Clinic with a history of weight loss over the last 6 months. The bodyweight had fallen from the 50th to the 20th percentile. She has little appetite and complains of postprandial cramps and recurrent nausea. Physical examination confirms a bloated abdomen with diffuse tenderness on palpation and perianal skin tags (see reports).

Endoscopy:
Focal ulcerations separated by otherwise intact mucosa which is spread over different GI segments.

Biopsy:
Transmural inflammation.

What part of the gastrointestinal tube is most likely to be affected?

A. Jejunum

**B. Ileum

C. Colon

D. Rectum

A 6-year-old boy presents with fever. On examination, he shows small white vesicles around his mouth and on his gum. Small discrete cervical lymph nodes are also palpable.

Which of the following viruses is more likely to be associated with these symptoms?

A. Ebestin bar virus

**B. Herpis simplex virus

C. Varicella zoster virus

D. Human pappiloma virus

A 5-day-old born at home to a 25 year-old primigravida at full term developed bruising over the thigh. Examination is normal, except for a few bruises on the left thigh. Weight and height are at the 95 percentile for age (see lab results).

Test Result Normal Values

Prothrombin time 21 12-14 s
APTT 66 30-40 s
Platlet 280 150-450

Which of the following is the most likely diagnosis?

A. Idiopathic thrombocytopenic purpura

**B. Neonatal hemorrhegic disease

C. Deficiency of factor X

D. Haemophilia

Which of the following is the most common intra-abdominal tumour in children?

A. Rhabdomyosarcoma

B. Hepatoma

**C. Wilm's

D. Ewing

A 4-month-old presents with frequent post-prandial regurgitation. The symptoms have been present since birth but have worsened when the mother increased the formula feeding volumes. The patient's weight is less than it was at the three-month check-up. General examination is otherwise normal.

Blood pressure 80/40 mmHg
Heart rate 120 /min
Respiratory rate 32 /min
Temperature 36.6° C

Which of the following is the most likely cause?

A. Duplication of the gastric pylorus

B. Erosion of the lower esophagus

C. Infection of the gastric antrum

**D. Decreased Lower Esophageal Sphincter pressure

A 15-month-old infant has been ill for the past 12 hours with apparent abdominal discomfort, emesis, and the passing of bloody mucous per rectum. The infant is slightly pale. On examination, found to have an increased bowel sounds. The abdominal film shows an obstructive pattern.

Which of the following is the most important step of management?

A. Bowel rest and IV hydration until resolution

B. Intravenous antibiotics

C. Immediate surgery

**D. Barium enema

Which of the following is the most appropriate management of an asymptomatic umbilical hernia in a 4-year-old?

A. Reassurance

B. Local cauterization

**C. Surgical correction

D. Elastic support to the mid-abdomen

A 3-year-old child is brought to the Emergency Room after swallowing a battery that is now lodged in the esophagus.

Which of the following is the most appropriate intervention?

A. Discharge home with reassurance

B. Administering intravenous glucagon

C. Observing the patient for 12 hours

**D. Immediate endoscopic removal

A 12-year-old boy referred to the hospital for treatment of pneumonia. Detailed history reveals intermittent dysphagia; retrosternal pain and regurgitation (see report).

Barium swallow:
Dilatation of the esophagus, lack of peristalsis, and many synchronous contractions. The lower end of esophagus shows gradual narrowing.

Which of the following is the most likely diagnosis?

**A. Achalasia cardia

B. Oesophageal malignancy

C. Diffuse oesophageal spasm

D. Gastroesophageal reflux disease

A 2-week-old newborn is brought to the clinic. The mother reports that her baby passes a small amount of unformed stool after each feed. The child is on breastfeed since birth.

Which of the following is the most appropriate management?

A. Prescription of lactose free milk

B. Oral rehydration solution

**C. Reassure the mother

D. Infant formula milk

A 20-day-old infant has non-fading yellow discoloration of the skin and pale stool that began on the third day after birth. A week ago, the infant was diagnosed with normal physiological jaundice and advised phototherapy (see lab results).

Test Result Normal Value
Total bilirubin 150 <19 μmol/L
Direct bilirubin 98 <10 μmol/L

Which of the following is the most likely diagnosis?

A. ABO incompatibility

B. Rh incompatibility

C. G6PD deficiency

**D. Biliary atresia

A 2-month-old baby is brought to the clinic for evaluation of spitting up immediately after every meal. On examination, his abdomen is soft with no hepatosplenomegaly, stool is negative for occult blood, and he is at the 50th percentile for height and weight (see lab results).

Test Results Normal Values
Hb 150 112-165 g/L
WBC 6.1 4-10.5 x 109/L
Platelets count 250 150-400 x 109/L
Urinalysis:
Protein Absent Absent
Leukocytes 0 0-3 per high power field
Erythrocytes 1 0-2 per high power field

Which of the following is the most appropriate next step in management?

A. Oral proton pump inhibitor

**B. Reassure the parents

C. Surgical referral

D. Abdominal CT

A 2-month-old boy is brought to the clinic with non-bilious and progressive vomiting. The symptoms have developed 2 weeks prior and the episodes of vomiting have been increasing in frequency. He is now vomiting after every feeding. His weight fell from the 50th percentile to the 25th percentile on the growth chart. The fontanels are sunken and skin turgor was reduced. Physical examination shows a small, firm and movable mass located between the umbilicus and the sternum.

Which of the following is the most likely laboratory result?

A. Elevated sodium level

B. A decreased haematocrit

C. Elevated C-reactive protein

**D. Hypochloremic metabolic alkalosis

A 4-week-old infant is brought to the clinic with progressive, projectile, non-bilious vomiting with a palpable 'olive' in right upper quadrant.

Which of the following is the most appropriate first investigation?

A. PH monitoring

B. Scintigraphy

**C. Sonography

D. Endoscopy

An 11-month-old is brought to the clinic. The Parent reports that he has a 1-day history of passing bright red blood mixed with foul smelling, dark brownish-black stool. The child is pale. Coagulation tests are normal (see lab result).

Blood pressure 118/56 mmHg
Heart rate 160 /min
Respiratory rate 26 /min
Temperature 36.6° C

Test Result Normal Value
Hb 70 112-165 g/L

Which of the following investigations is most likely to confirm the source of bleeding?

A. Abdominal ultrasonography

B. Radioisotope imaging

C. Barium enema

**D. Barium meal

A 2-week-old infant presents with projectile, non-bilious vomiting that frequently contains clotted milk. After vomiting, the child still seems to be hungry. On examination, there is mild dehydration. A firm, non-tender and mobile hard 1-2 cm in diameter mass is palpable in the right upper abdominal quadrant at the lateral edge of the rectus abdominus muscle (see report).

Heart Rate 95 /min
Respiratory Rate 25 /min
Temperature 36.7 °C

Abdominal X-ray:
Shows "single bubble" sign.

Which of the following is the most likely cause?

A. Gastroenteritis

**B. Pyloric stenosis

C. Reyes syndrome

D. Gastric mucosal atrophy

A 6-year-old child is brought to the Paediatric Clinic. The parent reports intermittent fever, vomiting, diarrhoea, and diffuse abdominal pain for the past week. The parent indicated that the child's eyes also appears to have a yellowish skin stain for the past 2 days. The liver is palpable 5 cm below costal margin and there is jaundice, scleral icterus, and mild abdominal tenderness on examination.

Blood pressure 110/70 mmHg
Heart rate 76 /min
Respiratory rate 18 /min
Temperature 38.0° C

Which of the following is the most likely type of viral hepatitis?

**A. A

B. B

C. C

D. D

A 10-month-old presents with fever, vomiting and copious watery diarrhoea for the past 3 days. Examination reveals a lethargic child with cool, dry skin, sunken eyes, tachycardia and mild tachypnea.

Which of the following tests is the most likely confirm the diagnosis?

A. Serum viral culture

B. Serum antibody

C. Stool leukocyte

**D. Stool antigen

A 12-year-old patient presents with recent onset of fever and abdominal pain. Just before arrival, the patient vomited. Pain began in the peri-umbilical area. After several hours, the pain localized to the right lower abdominal quadrant. The patient stated that any food offered would be refused. The patient is alert. Physical examination confirms guarding and rebound tenderness in the right lower abdominal quadrant and there are positive psoas and obturator signs (see lab result).

Blood pressure 110/70 mmHg
Heart rate 120/min
Respiratory rate 22 /min
Temperature 38.2° C

Test Result Normal Value

WBC 15.8 4-10.5 x 109/L

Which of the following is the most likely pathophysiology?

A. Crohn's disease

B. Pin-worm infestation

C. Intussusception of the ileum

**D. Obstruction of appendiceal lumen

A 6-month-old child presents to the Paediatric Outpatient Clinic with a 2-day history of gastroenteritis. The examination reveals decreased skin turgor, a depressed anterior fontanel, and sunken eyes.

What is the most likely percentage of dehydration?

A. 5

**B. 10

C. 15

D. 20

A 2-month-old girl has diarrhoea without vomiting. The mother is worried that she has dehydration and asks for advice on management.

Which of the following would be recommended?

A. Changing milk

B. Anti-diarrheal agent

**C. Oral rehydration fluid

D. Intravenous saline infusion

A 10-year-old girl is referred to the gastroenterologist after complaining about intense upper abdominal pain for the last 2 months. The pain is independent of meals and there is no vomiting or reflux. She has a normal stool and appetite. The patient's father has a history of peptic ulcer. Laboratory findings are normal. The C13-Urea-breath test is positive. The gastroenterologist performs a gastroscopy and takes a biopsy for microbiological testing.

Which bacterium is most likely to be found in the biopsy?

**A. Helicobacter pylori

B. Shigella dysenteriae

C. Campylobacter jejuni

D. Salmonella enteritidis

A 7-year-old child presents with recurrent attacks of abdominal pain for the last 2 weeks, decreased appetite and general weakness. On examination, she looks ill. Abdominal palpation detected a tender mass located in the right lower quadrant; it was confirmed by rectal examination. Complete blood count shows leucocytosis with left shift

Blood pressure 90/60 min
Heart rate 100 /min
Temperature 37.5° C

Which of the following investigations is most likely to confirm the diagnosis?

A. Abdominal ultrasound

B. Plain abdomen X ray

**C. Abdominal CT scan

D. Barium enema

A 5-month-old infant presents with acute onset of severe vomiting and diarrhoea for the last 2 days. On examination, the baby is lethargic; had an overall poor and ill appearance, dry mucous membranes, and crying with tears, while capillary refill is 3 seconds (see lab results).

Heart rate 130 /min
Respiratory rate 25 /min
Temperature 38.6° C

Test	Result	Normal Values
Sodium	149	134-146 mmol/L
Glucose	2.9	3.3-5.5 mmol/L

Which of the following fluids should be administered?

A. IV isotonic fluid 20 ml/Kg

B. Pedialyte 10 ml over five min

**C. Dextrose 10 % in 1/2 normal saline

D. ORS which has 1:1 ratio of Na: glucose

A 4-year-old girl is brought to the clinic for prolonged diarrhoea. On examination, she looks pale. She is drinking 3 pints of goat's milk/day, and a very fussy eater (see lab results).

Test	Result	Normal Values
Hb	59	112-165 g/L
MCV	102	80-95 fl
MCHC	390	260-340 g/L

Which of the following is the most significant in the past medical history?

A. Hypothyroidism

B. Aplastic anaemia

**C. Giardia parasitic infection

D. Psychological deprivation

A 7-month-old infant is brought to clinic with a 2-day history of vomiting and diarrhoea. The stool is watery without mucous or blood. Examination reveals that the infant is only mildly dehydrated.

Which of the following is the most appropriate management?

A. ORS[1], and cefixime

**B. ORS and reassurance

C. Anti-emetics and ORS

D. Anti-emetics, and cotrimoxazole

[1] Oral Rehydration Solution

A 10-year-old patient presents with a 3-day history of yellow discoloration of the sclera, anorexia and abdominal pain (see lab results).

Test Result Normal Values
Indirect bilirubin 140 <19 µmol/L
Total bilirubin 260 <20.5 µmol/L
Albumin 40 36-52 g/L
Total Proteins 76 56-80 g/L
Alanine aminotransferase 878 10-35 U/L
Aspartate aminotransferase 1005 12-40 IU/L

Which of the following is the most likely diagnosis?

A. Gilbert's syndrome

**B. Infective hepatitis

C. Obstructive jaundice

D. Acute pancreatitis

A 6-week-old infant begins to exhibit forceful vomiting after each meal. The infant was born at term to a 23 year-old primigravida whose pregnancy was uncomplicated and ended with a normal vaginal delivery. No congenital anomalies are noted upon examination of the infant.

Which of the following is the most likely diagnosis?

A. Congenital duodenal atresia

B. Necrotizing enterocolitis

C. Hirschsprung's disease

**D. Pyloric stenosis

A 3-year-old child presents to the Paediatric Emergency Department a half hour after ingesting a caustic material. The child is crying, drooling, and does not look well.

Which of the following is the most appropriate initial management?

**A. Establish the airway

B. Activated charcoal

C. Identify the agent

D. Immediate endoscopy

Which of the following radiographic signs is associated with Duodenal obstruction in a neonate?

A. Kerley B lines

B. Bird's beak sign

C. Hampton's hump

**D. Double bubble sign

A 2-year-old boy presents with poor growth, abdominal distension and diarrhoea. On examination, he is at the 5th percentile on the growth chart. He looks pale, has abdominal distension, and wasting of the buttocks.

Which of the following is the most likely diagnosis?

**A. Celiac disease

B. Cystic fibrosis

C. Crohn's disease

D. Toddler diarrhoea

A 2-year-old boy presents with poor growth, abdominal distension and diarrhoea. On examination, he is at the 5th percentile on the growth chart. He looks pale, has abdominal distension, and wasting of the buttocks.

Which of the following is the most appropriate investigation?

**A. Anti-endomysial antibodies

B. Complete blood count

C. Duodenal biopsy

D. Colonoscopy

A 10-year-old boy presents to the clinic complaining of abdominal pain, frequent diarrhoea that is sometimes bloody, and pain usually accompanying defecation. His mother observed that he has lost weight over the last 3 months since the onset of the problem. The boy also has aches and pains of his joints. On examination, he looks ill, pale, with a soft abdomen, no tenderness or organomegaly (see lab results).

Blood pressure 110/70 mmHg

Heart rate 100 /min
Respiratory rate 16 /min
Temperature 38.6° C

Test Result Normal Values
Sodium 132 134-146 mmol/L
Potassium 3.2 3.5-5.1 mmol/L
Creatinine 31 27-62 µmol/L
Blood urea nitrogen 5.6 1.8 to 6.4 mmol/L
Hb 82 112-165 g/L
C-reactive peptide 1.1 0-0.5 mg/dl
Albumin 32 36-52 g/L

Which of the following is the most likely diagnosis?

A. Celiac disease

B. Crohn's disease

**C. Ulcerative colitis

D. Chronic dysentery

A 10-year-old boy presents to the clinic complaining of abdominal pain, frequent diarrhoea that is sometimes bloody, and pain usually accompanying defecation. His mother noted that he has lost weight over the last three months since the onset of the problem. The boy also has aches and pains of his joints. On examination, he looked ill, pale, with a soft abdomen, no tenderness or organomegaly (see lab results).

Blood pressure 110/70 mmHg
Heart rate 100 /min
Respiratory rate 16 /min
Temperature 38.6° C

Test Result Normal Values
Sodium 132 134-146 mmol/L
Potassium 3.2 3.5-5.1 mmol/L
Creatinine 31 27-62 µmol/L
Blood urea nitrogen 5.6 1.8 to 6.4 mmol/L
Hb 82 112-165 g/L
C-reactive peptide 1.1 0-0.5 mg/dl
Albumin 32 36-52 g/L

Which of the following treatments should be tried first?

A. Metronidazole

B. Corticosteroids

C. Gluten free diet

**D. 5 amino salicylates

A 4-month-old child presents to the Paediatric Outpatient Clinic with a 2-day history of constipation, lethargy, and fever. The child was born to a 25 year-old primigravida and is being breastfed. On examination, the child has flattened facies, an inability to smile or gaze away when a light is shined directly in the eye.

Blood pressure 110/70 mmHg
Heart rate 140 /min
Respiratory rate 26 /min
Temperature 38.2° C

Which of the following is the most likely diagnosis?

A. Hirschsprung's disease

**B. Infantile botulism

C. Hypothyroidism

D. Amoebic colitis

A 7-year-old child is brought to the clinic. The parent reports yellowish-brown discoloration and caries on the occlusive surfaces of her teeth.

Which of the following is the most appropriate treatment?

A. Diet modification

B. Antiseptic mouthwash

C. Topical intraoral antibiotics

**D. Systemic fluoride supplementation

An 8-year-old is brought to the clinic by his parents. The patient is overweight and looks much older than other children in the same age group. Weight and height are greater than the 95th percentile for the child's age, and body mass index is 30 Kg/m2. The rest of the examination is normal.

Which of the following is the most appropriate management?

A. Observation and revaluation in 12 months

B. Referral for surgical intervention

C. Prescription obesity medication

**D. Lifestyle modification

A child is brought to the Emergency Department after accidentally consuming a large dose of nutritional supplements 2 hours before. Now has developed nausea, vomiting, abdominal pain, and diarrhoea. The vomit is black.

Blood pressure 90/60 mmHg
Heart rate 100 /min
Respiratory rate 18 /min
Temperature 36.6° C

Which of the following is the most likely diagnosis?

A. Obstruction

**B. Iron poisoning

C. Hypervitaminosis

D. Hyperproteinemia

A 9-day-old infant presentes to the clinic. The infant was born at 40 weeks' gestation by spontaneous vaginal delivery and had an uneventful birth and nursery course. The infant is breastfed and nursing well. On examination, the infant is mildly jaundiced with a yellow colouration to the face down to the mid-chest. The extremities do not appear jaundiced. The examination is otherwise normal.

Which of the following is the most likely diagnosis?

A. Deficiency of glucuronyl transferase

B. Resolution of birth trauma

**C. Breast milk jaundice

D. Hepatitis

A 12-year-old patient presents to the clinic with diarrhoea, vomiting, miosis, bronchoconstriction, sweating, and excessive salivation. On examination, the breath has a garlic odour.

Which of the following is the most likely diagnosis?

**A. Organophosphate poisoning

B. Diabetic ketoacidosis

C. Cyanide ingestion

D. Cocaine overdose

What is the daily fluid maintenance requirement in ml for a nine month-old child whose weight is 10 Kg?

A. 500

**B. 1,000

C. 1,500

D. 2,000

A child is brought to the Emergency Department after ingesting a potentially toxic dose of a relative's medication.

Which of the following is the next step in management?

**A. Activated charcoal

B. Gastric lavage

C. Ipecac syrup

D. Cathartics

A 2-month-old baby is brought to the clinic. The mother reports her baby had been crying so much for the last 2 weeks and all her efforts to calm him had failed. The child was delivered normally at 36 weeks' gestation. He has been breast fed since birth, but the mother recently introduced an evening bottle to help calm the baby. On examination, he is crying and irritable. He is at the 50th percentile on the growth curve, and apart from abdominal distension there are no abnormal physical signs.

Which of the following is the most likely diagnosis?

**A. Infant colic

B. Infant constipation

C. Infant regurgitation

D. Cow's milk intolerance

A 7-year-old child developed attacks of post-meal nausea, abdominal distension, and central abdominal pain and cramps that usually followed by watery diarrhoea. On examination, the child looked well, with a slightly distended abdomen.

Blood pressure 90/70 mmHg
Heart rate 98 /min
Respiratory rate 18 /min
Temperature 36.6° C

Which of the following is the most likely diagnosis?

A. Chronic giardia lamblia infection

B. Chronic salmonella infection

C. Inflammatory bowel disease

**D. Carbohydrate intolerance

A preterm newborn presents with abdominal distention and showed air lucency in the bowel wall.

Which of the following is the most likely diagnosis?

A. Infection

B. Malrotation

C. Meconium ileus

**D. Oesophageal atresia

A 3-month-old breastfed child becomes anorexic and develops generalized edema with some degree of aphonia. The infant is diagnosed with infantile beriberi.

What vitamin deficiency does this infant have?

**A. Vitamin B1

B. Vitamin E

C. Vitamin C

D. Niacin

A 1-year-old infant presents with massive hepatosplenomegaly, skin bruises, and swelling in the lateral aspect of the neck.

Which of the following is the most appropriate investigation?

**A. Bone marrow aspiration

B. Lumbar puncture

C. EBV serology

D. MRI thorax

A young boy developed gingival hypertrophy with enlarged, bluish purple friable gums.

Which of the following vitamin deficiencies is the most likely the cause?

A. A

**B. C

C. D

D. E

When should breastfeeding begin after the delivery?

**A. Immediately

B. 8 hours

C. 24 hours

D. 48 hours

A 2-year-old African child is skinny with obvious muscle wasting, loss of body fat, and no edema.

Which of the following malnutrition does this child have?

A. Muscle wasting syndrome

B. Kwashiorkor

**C. Marasmus

D. Pica

Which of the following diets could cause kwashiorkor?

A. High-protein and high-carbohydrate

B. High-protein and low-carbohydrate

**C. Low-protein and high-carbohydrate

D. Low-protein and low-carbohydrate

A 4-day-old infant is seen by a paediatrician in the newborn nursery, for bilious vomiting and abdominal distention. The newborn has been feeding poorly and is difficult to calm. The newborn passed meconium shortly after birth and has passed several seedy, yellow stools each day since then. The physical examination confirmed abdominal distention.

Which of the following is the most likely diagnosis?

A. Allergic reaction to formula

B. Hirschsprung's disease

C. Meconium ileus

**D. Midgut volvulus

A 10-month-old child has a 3-day history of green watery stools. She has also been vomiting for 1 day. Physical examination confirms an afebrile, irritable baby with dry mucous membranes and sunken eyes.

Which of the following is the most important management strategy?

A. Start antibiotics

B. Antidiarrheal drugs

C. Order a stool culture

**D. Fluid and electrolyte replacement

A 5-week-old infant is brought to the clinic with a 3-week history of intermittent vomiting. After vomiting, the infant becomes very hungry and wants to feed again. Physical examination shows no alterations apart from a 2.50 kg weight loss (see lab results).

Test	Results	Normal Values
Sodium	147	134-146 mmol/L
Potassium	2.9	3.5-5.1 mmol/L
Bicarbonate	32	21-28 mmol/L
Chloride	89	97-108 mmol/L

Which of the following is the most likely diagnosis?

A. Gastric volvulus

B. Cyclic vomiting syndrome

**C. Hypertrophic pyloric stenosis

D. Intestinal malrotation with volvulus

A 12-year-old boy presents to the clinic with intermittent abdominal distention, abdominal colic and excessive flatulence. He first started noticing these symptoms when he moved into his father's house and his stepmother insisted on milk at dinner every night. He is otherwise healthy, has normal growth, no weight loss, and no travel history.

Which of the following tests has the highest diagnostic value?

A. Serum lactose levels

B. Esophageal manometry

C. Upper gastrointestinal endoscopy

**D. Hydrogen breath test after oral lactose

A 6-month-old infant is brought to the clinic with a 3-day history of watery diarrhoea. On examination, the infant is awake and alert but restless and eager to drink, had a depressed fontanel, tachycardia, normal pulses and sunken eyes.

What would be the expected percentage of dehydration?

A. <1%

B. 1-3%

C. 4-9%

**D. >9%

A 13-year-old girl has a 10-month history of diarrhoea, postprandial periumbilical abdominal pain, and fever with weight loss. She has had several episodes of blood in her stools.

Which of the following is the most likely diagnosis?

A. Peptic ulcer

B. Biliary lithiasis

**C. Crohn's disease

D. Chronic pancreatitis

An 18-month-old Caucasian boy is evaluated in the clinic for failure to thrive, poor appetite, abdominal distention, diarrhoea and irritability. He had been well until 12 months of age when he was weaned from milk to regular foods. Since then, his growth curve is flattened.

Which of the following is the most likely diagnosis?

A. Giardiasis

B. Cystic fibrosis

**C. Celiac disease

D. Whipple disease

A 12-month-old girl presents to the Emergency Department with cramping, colicky abdominal pain progressively developing over the past 12 hours. She has had 2 episodes of vomiting. On physical examination, the child is irritable, and there is abdominal tenderness. Vital signs are normal. During the examination, the child passed a bloody stool with mucus. Lab testing and ultrasound shows leucocytosis and a doughnut-shaped image, respectively.

Which of the following is the most appropriate step in management?

A. Watchful waiting

B. Emergency surgery

**C. Radiographic reduction

D. Intravenous normal saline

A 6-month-old child regularly regurgitates a large portion of his feeds. A pH probe study shows significant periods of low oesophageal pH. The child has normal growth and no other significant past medical history.

Which of the following is the most appropriate management?

A. Oral antacids

**B. Close follow-up

C. Oesophageal manometry

D. Surgery with fundoplication

A 9-year-old child with gastroenteritis caused by Shigella species.

Which of the following antibiotics should be prescribed?

A. Amoxicillin

**B. Ceftriaxone

C. Azthromycin

D. Metronidazole

Which of the following vaccines is used for immunization against Hepatitis B virus?

A. Toxoid

**B. Inactivated

[✓ C. Recombinant]

D. Live-attenuated

A 6-week-old infant is admitted to the hospital with jaundice (see lab results).

Test Results Normal Values
Total bilirubin 65 <20.5 µmol/L
Direct bilirubin 52 <5 µmol/L

Which of the following is the most likely diagnosis?

**A. Choledochal cyst

B. Gilbert syndrome

C. ABO incompatibility

D. Crigler-najjar syndrome

A 7-year-old boy presents with recurring upper abdominal pain and occasional vomiting after meals over the last 6 months. The child has not gained any weight since the beginning of the symptoms and has a loss of appetite. The father has a history of peptic ulcer. Physical examination confirms epigastric tenderness on palpation. A gastroscopy is performed and a biopsy is taken for microbiological testing. Treatment with metronidazole and a proton pump inhibitor is recommended. Laboratory findings are normal (see report).

13C-Urea-breath test:
Positive.

Which additional medication should be added to the treatment?

**A. Clarithromycin

B. Tetracycline

C. Prednisone

D. Sucralfate

A 7-year-old boy presented with recurring upper abdominal pain and occasional vomiting after meals for the last 6 months. The child has not gained any weight since the beginning of the symptoms and has a loss of appetite. The father has a history of peptic ulcer. Physical examination confirms epigastric tenderness at palpation. A gastroscopy is performed and a biopsy is taken for microbiological testing. A triple treatment with amoxicillin, clarithromycin and a proton pump inhibitor is recommened. Laboratory findings are normal (see report).

13C-Urea-breath test:
Positive.

Which of the following is the most appropriate way to monitor the response to treatment?

A. Serologic testing

B. Clinical manifestation

**C. 13C-Urea-breath test

D. Biopsy for microbiological testing

A young child is brought to the Emergency Department after ingesting a large amount of baby aspirin.

Which of the following is the most likely acid-base imbalance?

A. Respiratory acidosis followed by metabolic acidosis

B. Metabolic alkalosis followed by respiratory alkalosis

C. Metabolic acidosis followed by respiratory alkalosis

**D. Respiratory alkalosis followed by metabolic acidosis

A 2-year-old boy presents to the Paediatric Outpatient Clinic due to muscular weakness and bone pains. His legs are curved outwards. The child belongs to a strict vegetarian family. He has not been given vitamin supplements and is minimally exposed to the sun.

Which of the following vitamins should be prescribed?

A. A

**B. D

C. E

D. K

A 5-year-old child presents with drowsiness, abdominal pain, nausea and bloody diarrhoea after ingesting an unknown number of iron tablets several hours before (see lab result).

Test Result Normal Value
Iron 94 9-21.5 µmol/L

Which of the following is the most appropriate treatment?

A. Haemodialysis

B. Gastric lavage

C. Oral activated charcoal

**D. Intravenous deferoxamine

A 10-year-old boy presents to the clinic with a progressive yellow discoloration of his sclera and skin as well as abdominal distention. Examination reveals jaundice and a Kayser-Fleischer ring (see lab results).

Test Result Normal Values
Total bilirubin 81 <20.5 µmol/L
Aspartate aminotransferase 65 12-40 IU/L
Aspartate aminotransferase 105 12-40 IU/L
Ceruloplasmin 132 200-540 µg/L

Which of the following is the most appropriate treatment?

A. Ethylene diamine tetra acetic acid

B. British anti-Lewisite

C. Desferrioxamine

**D. Penicillamine

Which of the following viral gastroenteritis can be prevented by vaccination?

A. Adenovirus infection

B. Astrovirus infection

C. Norovirus infection

**D. Rotavirus infection

A 1-month-old baby is brought to the clinic with signs of constipation, abdominal distension, and bilious vomiting. The parents explain that constipation has been a problem since the baby's birth.

Which of the following tests has the highest diagnostic value?

A. Plain X-ray

**B. Rectal biopsy

C. Anal manometry

D. US abdomen

A 7-month-old baby presents to the Emergency Department with irritability, and intermittent crying during which he pulls up his legs, followed by periods with no discomfort for the last 4 hours. He had started to vomit just before his parents brought him. On examination, the child looked ill and lethargic, with a distended abdomen, and a palpable mass in the right upper quadrant.

Heart rate 140 /min
Respiratory rate 28 /min
Temperature 38.6° C

Which of the following is the most likely diagnosis?

A. Pancreatitis

B. Appendicitis

C. Gastroenteritis

**D. Intussusceptions

A 7-month-old baby presents the Emergency Department with irritability, and intermittent crying during which he pulls up his legs, followed by periods with no discomfort for the last four hours.

He had started to vomit just before his parents brought him. On examination, the child looked ill and lethargic, with a distended abdomen, and a palpable mass in the right upper quadrant.

Heart rate 140 /min
Respiratory rate 28 /min
Temperature 38.6° C

Which of the following is the most appropriate investigation?

**A. Contrast barium enema

[✓ B. Abdominal ultrasound]

C. Plain Abdomen X-ray

D. Abdominal CT scan

Which of the following findings would support a diagnosis of Turner's syndrome?

A. A palpable liver 2 cm below costal margin

**B. Redundant skin folds at the nape of neck

C. Hypertonia and ankle clonus

D. Single palmer creases

A 13-year-old girl presents to the clinic for an assessment of her short stature. On examination, the patient has a height and weight below the 5th percentile, a webbed neck, lack of breast bud development, a high-arched palate, and a low-set posterior hairline.

Which of the following is the most likely diagnosis?

A. Trisomy 21

**B. Turner's syndrome

C. Fragile X syndrome

D. Noonan's syndrome

A 12-year-old boy presents to the clinic with his mother. She is concerned that he is the shortest boy in the class. His mother's height is 155 cm. and father's height is 178 cm. The boy's height is 145 cm (between 5th - 10th percentile) and his bone age is 10 years.

What will be the patient's target height in cm?

A. 135-150

B. 151-165

**C. 166-180

D. 181-195

A 19-year-old girl presents with a short stature, wide-spaced nipples, and primary amenorrhea.

What is the most likely karyotype?

**A. 45X

B. 46XX

C. 47XXX

D. 47XX+18

A newborn presents with a low weight and hypotonia. Tongue protrusion was observed on multiple occasions and has a single palmar crease. Cardiac auscultation confirms a systolic murmur and ecocardiography confirms the presence of a ventricular septal defect.

Which of the following syndromes is the most likely diagnosis?

**A. Down

B. Alport

C. Klinefelter

D. Prader-Willi

A 4-year-old boy presents with a rectal prolapse. His parents report that he has constipation and his stools are bulky and foul smelling. His growth chart indicated that he is below the 5th percentile in both height and weight. In the past, he has had 2 episodes of pneumonia. During investigation, he tested positive for the sweat chloride test.

His parents and a 1-year-old brother are healthy and have no clinical symptoms.

Which of the following would be the most appropriate investigation?

A. Sibling's sweat chloride test

B. Parents' Sweat chloride test

**C. Sibling's DNA analysis for the cystic fibrosis transmembrane conductance regulator gene

D. Parents' DNA analysis for the cystic fibrosis transmembrane conductance regulator gene

A newborn boy is brought to the Paediatric Clinic for a check-up. Examination shows a tense fluctuant, painless mass on the right side of the scrotum. Shining a bright light toward the enlarged right side of the scrotum by torch, a clear illumination is observed.

Which of the following is the most likely diagnosis?

A. Varicocele

**B. Hydrocele

C. Haematocele

D. Indirect inguinal hernia

A 2-year-old boy presents to the paediatrician with severe testicular pain and swelling that had just started 2 hours before. The child is nauseous and has vomited twice. The parents report a similar episode that had happened 3 weeks ago but was of a very short duration. The scrotum is swollen and tender and does not transilluminate. No contraction of the cremaster muscle can be provoked by stroking the inner part of the thigh.

Blood pressure 110/70 mmHg
Heart rate 160 /min
Respiratory rate 50 /min
Temperature 36.6° C

Which of the following is the most appropriate treatment?

A. NSAID

B. Antibiotic therapy

**C. Surgical exploration

D. Elevated scrotal position

A 4-year-old boy with nephritic syndrome presents with vomiting, abdominal pain and diarrhoea. On examination, his abdomen is distended and there is an evidence of generalised and rebound tenderness.

Which of the following is the most likely diagnosis?

**A. Peritonitis

B. Gastritis

C. Pancreatitis

D. Appendicitis

A 2-year-old boy is brought to the Paediatric Emergency Department. The mother reports that the boy has become increasingly irritable and feeble over the last 2 days. He has passed very little urine and his skin has become pale. The mother had consulted the paediatrician 2 weeks before because the baby had suffered from bloody diarrhoea, vomiting and high fever. Symptomatic treatment with acetamenophin and probiotics had been started. Physical examination shows mild petechiae on the lower extremities. Urinalysis reveals microhematuria and mild proteinuria (see lab results).

Test Result Normal Values
Hb 73 112-165 g/L
INR 1.1 0.9-1.2
WBC 48.6 4.5-10.5 x 109/L
Platelets count 95 150-400 x 109/L
MCV 86 80-95 fl
MCH 30 28-33 pg/cell
RBC count 3.3 4.6-4.8 x 1012/L
Prothrombin time 12 12-14 sec
APTT 34 30-40 s

Which of the following is the most likely diagnosis?

**A. HUS

B. ITP

C. TTP

D. DIC

A 10-year-old child presents with a high-grade fever, generalized body swelling, decreased urine output, and dark-coloured urine.

Which of the following is the most appropriate first investigation?

A. Abdominal ultrasound

B. Renal function tests

**C. Urinary analysis

D. Kidney biopsy

A 7-year-old child presents with a history of fever and pain in the lower abdomen for the past 3 days. The parent reports that the child's urine has been foul smelling for the past 2 days (see report).

Urine culture:
Gram negative bacteria, > 100,000 cells/ml.

What is the most likely organism?

A. Staphylococcus saprophyticus

B. Klebsiella pneumoniae

C. Proteus mirabilis

**D. Escherichia coli

A 7-year-old child presents to the Medical Outpatients with a parent who reports edema over the face. Examination of urine shows selective proteinuria (3.5 g/day).

Which of the following is the most likely diagnosis?

A. Kwashiorkor

B. Nephritic syndrome

**C. Nephrotic syndrome

D. Protein losing diarrhea

A 14-year-old presents with photosensitivity, a malar rash, joint pains and purpuric rashes on both legs. Urine examination shows red cells.

Which of the following is the most likely diagnosis?

A. Idiopathic thrombocytopenic purpura

B. Rheumatoid arthritis

C. Aplastic anaemia

**D. Lupus nephritis

A 5-year-old child presents with features of glomerulonephritis. A week later, she developed haemoptysis.

Which of the following is the most likely diagnosis?

A. Rapidly progressive glomerulonephritis

B. Henoch Schönlein purpura

**C. Goodpastures syndrome

D. Lupus nephritis

An 8-year-old boy presents to the Paediatric Clinic with weakness, headache, nausea and anorexia that began 1 week before. Physical examination shows pitting edema, grade 2+ on the edema scale, over the eyelids and ankles. There is pallor of the skin, mucous membranes and nail beds. A 24-hour urine collection reveals a urine production of 20 ml per hour while the boy's bodyweight is 27 kg, the urine appears dark brown.

Blood pressure 140/100 mmHg
Heart rate 120 /min
Respiratory rate 36 /min
Temperature 38.6° C

What clinical history would be most important for the diagnosis?

A. Diagnosed sickle cell disease

B. Recurrent urinary tract infections

C. Abdominal trauma 1 week before

**D. Impetigo contagiosa 1 month before

A 2-year-old boy presents to the Outpatient Clinic with a 2-week history of facial swelling, poor dietary intake and reduced activity with positive sacral oedema (see lab results).

Blood pressure 95/65 mmHg
Heart rate 95 /min
Respiratory rate 28 /min
Temperature 36.8° C

Test	Result	Normal Values
Hb	94	112-160 g/L
Alanine aminotransferase	52	10-35 U/L
Albumin	25	36-52 g/L
Total Cholesterol	7.0	<5.2 mmol/L

Which of the following is the most likely diagnosis?

A. Congestive heart failure

B. Chronic liver disease

**C. Nephrotic syndrome

D. Protein malnutrition

A 3-year-old girl is brought to the Emergency Department with fever and dark urine. Her parents state that she had been constipated. On examination, she looks unwell and irritable with abdominal tenderness, but no palpable liver or spleen (see lab results).

Blood pressure 125/86 mmHg
Heart rate 125 /min
Respiratory rate 29 /min
Temperature 39.9° C

Test Result Normal Values
WBC 16.5 4.5-10.5 x 109/L
Hb 81 112-160 g/L
Platelets count 325 150-400 x 109/L

Urinalysis
Test Result Normal Values
Leukocytes 16 0-3 per high power field
Erythrocytes 18 0-2 per high power field
Protein ++ Absent

Which of the following is the most likely diagnosis?

A. Hypertensive nephropathy

B. Acute glomerulonephritis

**C. Acute pyelonephritis

D. Acute cystitis

A 3-year-old girl is brought to the Emergency Department with fever and dark urine. Her parents state that she had been constipated. On examination, she looks unwell and irritable with abdominal tenderness, but no palpable liver or spleen (see lab results).

Blood pressure 125/86 mmHg
Heart rate 125 /min
Respiratory rate 29 /min
Temperature 39.9°C

Test Result Normal Values
WBC 16.5 4.5-10.5 x 109/L
Hb 81 112-160 g/L
Platelets count 325 150-400 x 109/L

Urinalysis
Test Result Normal Values
Leukocytes 16 0-3 per high power field
Erythrocytes 18 0-2 per high power field
Protein ++ Absent

Which of the following is the most appropriate management?

A. Frusemide

**B. Ceftrixone

C. Prednisone

D. Salt free diet

A 7-year-old boy complains of passing tea-coloured urine for the last 3 days. On examination, there is a congested throat, with no other abnormal findings (see lab results).

Blood pressure 140/98 mmHg
Heart rate 120 /min
Respiratory rate 20/min
Temperature 37.5° C

Urinalysis Result Normal Values
Colour Brown tea Clear or light yellow
Appearance Turbid Clear
Leukocytes 3-5 0-3 per high power field
Erythrocytes 20-30 0-2 per high power field

Which of the following is the most appropriate investigation?

A. Urine culture and sensitivity

B. Abdominal ultrasound

C. Plain abdomen X-ray

**D. Serum creatinine

A 6-year-old boy complains of passing Coca cola-coloured urine for the last week. On examination, he had a congested throat, and anterior cervical lymphadenopathy (see lab results).

Blood pressure 155/100 mmHg
Heart rate 125 /min
Respiratory rate 20/min
Temperature 38.5° C

Urinalysis Result Normal Values
Colour Brown Clear or light yellow
Appearance Turbid Clear

Leukocytes 3-5 0-3 per high power field
Erythrocytes 20-30 0-2 per high power field

Which of the following is the most likely diagnosis?

A. Acute cystitis

B. IgA nephropathy

C. Alports syndrome

**D. Acute glomerulonephritis

Which of the following investigations is the most important to perform on a child with enuresis?

**A. Urinalysis

B. Urine culture

C. Complete blood count

D. Intravenous pyelography

A 6-year-old child has asymptomatic haematuria. There is no significant past medical history and the physical examination is unremarkable (see lab result).

Urinalysis Result Normal Value
Eryrthrocytes 15 0-2 per HPF

Which of the following should the initial evaluation include?

**A. Repeat urinalysis

B. Urine cytology

C. Renal biopsy

D. Cystoscopy

A 13-year-old twins, one boy and one girl present with their parent to the clinic. The parent is concerned because one of the children appears to have entered puberty while the other has not.

Which of the following should be explained about girls' puberty compared with boys?

**A. 2-3 years earlier

B. 6-12 months earlier

C. 1 to 2 years after boys

D. Almost same time as boys

A 14-year-old girl presents to the Paediatric Clinic with her mother, who is worried because her daughter has not started menstruating yet. The girl has always been short of stature and there has been no pubertal growth spurt. Physical examination confirms that the girl has low hairline, prominent and low-set ears and a webbed, short neck. The lower legs are X-shaped and the chest is broad. There is no sign of breast development or other signs of sexual maturation. The mother reports that the adolescent has difficulties focusing on classwork and remembering what she has learned.

Height 150 cm (5th percentile)
Weighs 65 kg (90th percentile)

Which of the following is the most likely diagnosis?

A. Constitutional short stature

B. Endocrine short stature

C. Normal growth stature

**D. Syndromic short stature

A 7-year-old girl presents to the Paediatric Clinic with her mother, who is worried that her daughter has developed growth of pubic hair. She has had a normal physical development. Her school performance is acceptable and she is socially well integrated with her peers. Physical examination reveals pubic hair on the mons and the labia majora, but there is no axillary or facial hair. The clitoris is of normal size for that age. There is no sign of masculinization and no breast development. Examination of the heart, lungs and abdomen shows normal results.

Blood pressure 95/55 mmHg
Heart rate 80 /min
Respiratory rate 26 /min
Temperature 36.8° C
Height 90 cm (75th percentile)
Weight 23 kg (50th percentile)

Which of the following is the most likely diagnosis?

A. Congenital adrenal hyperplasia

**B. Premature adrenarche

C. Turner syndrome

D. Normal puberty

Which of the following physical findings in boys is the earliest indicator that puberty has begun?

A. Increased penile size

B. Increased prostate size

**C. Increased testicular size

D. Appearance of pubic hair

A 2-year-old boy presents to the clinic with abdominal pain, malaise, fever, nausea and vomiting. He has a history of 2 urinary tract infections. A contrast voiding cysto-urethrogram is requested (see image).

Which of the following is the most likely diagnosis?

A. Ureterocele

B. Urinary lithiasis

**C. Vesicoureteral reflux

D. Agenesia of the left ureter

A newborn boy is brought to the Paediatrics clinic. Examination shows abdominal distension with palpable kidneys and a distended bladder (see report).

Voiding cystourethrogram:
Shows bilateral hydronephrosis and distension of the bladder and proximal urethra.

Which of the following is the most likely diagnosis?

A. Prune-belly syndrome

**B. Posterior urethral valves

C. Polycystic kidney disease

D. Ureteropelvic junction obstruction

A 6-year-old boy presents to the Emergency Room with severe scrotal pain. The parents report that he started complaining 5 hours before and that the pain has become increasingly worse. He is otherwise healthy and there is no history of trauma. A physical examination confirms a swelling of the scrotum and tenderness of the left testicle. The cremasteric reflex is absent.

Which of the following actions should be taken next?

**A. Surgical consult

B. Testicular ultrasound

C. Urinalysis and urine culture

D. Analgesics and apply ice to scrotum

What would be the best treatment of an uncomplicated cystitis in a 5-year-old girl?

**A. Oral amoxicillin

B. Oral sodium bicarbonate

C. Intravenous ciprofloxacin

D. Intramuscular ceftriaxone

What is the most common disorder of sexual differentiation in boys?

A. Micropenis

B. Buried penis

C. Hypospadias

**D. Cryptorchidism

Which of the following methods of collection of urine for culture is most sensitive and reliable for establishing the diagnosis of a urinary tract infection?

A. Midstream urine

B. Catheter collection

**C. Suprapubic aspiration

D. Bag applied to genitals

A 7-year-old boy is brought to the clinic with the complaints of mild abdominal pain, constipation and aggression. The mother told the physician that he is used to eating tissue paper and chipped off wall paint (see lab results and report).

Test Result Normal Values
RBC 3.9 4.6-4.8 x 1012/L
Hb 74 112-165 g/L
MCH 23 28-33 pg/cell
MCV 70 80-95 fl

Peripheral blood smear:
Microcytic hypochromic.

Which of the following is the most likely type of anaemia?

A. Aplastic

B. Pernicious

C. Haemolytic

**D. Iron deficiency

A 2-year-old boy presents with irritability, lack of attention, and an abnormal craving for chalk to eat. He was born full term by vaginal delivery and has had appropriate developmental milestones. He was breastfed and weaning started at the age of 9-months. The examination is normal except for pale conjunctivae (see lab results).

Test Result Normal Values
Hb 76 112-165 g/L
HCT 0.22 0.32-0.42
WBC 5 4.5-10.5 x 109/L
Platelets count 250 150-400 x 109/L
MCV 65 80-95 fl
MCH 22 28-33 pg/cell
MCHC 248 260-340 g/L
Reticulocyte 0.9 0.2-1.2 %
Total iron binding capacity 701 17.9-71.6 μmol/L

Which of the following is the most suitable treatment?

A. Folic acid

B. Vitamin B12

**C. Iron supplementation

D. Packed cell transfusion

Which of the following vitamins is administered to newborns to prevent haemorrhagic disease?

A. A

B. B

C. C

**D. K

A 6-year-old child is brought to the Emergency Department with chest pain and signs of respiratory distress. The child has a minor upper respiratory tract infection, which suddenly worsened with temperature elevation. The physical examination found an increased pulmonic and systolic ejection murmurs (see lab results and report).

Test Result Normal Values
Hb 65 112-165 g/L
WBC 18 4.5-10.5 x 109/L
Reticulocyte 12 0.2-1.2 %

Chest X-ray:
Shows lobar infiltrates.

Which of the following is the most likely diagnosis?

**A. Sickle cell disease

B. Splenic sequestration

C. Myocardial infarction

D. Pneumococcal pneumonia

A 5-year-old child presents with bleeding from the nose and gums and easy bruising of the extremities for 3 days. Prior to this presentation, the child had a viral upper respiratory tract infection.

Which of the following is the most likely diagnosis?

**A. Idiopathic thrombocytopenic purpura

B. Henoch-schönlein purpura

C. Meningococcemia

D. Haemophilia A

A 3-year-old child presents for a routine physical examination. The parent is concerned that the child appears pale. The child's diet includes a lot of milk but very little red meat. Haemoglobin is 80 g/L with hypochromic and microcytic indices.

Which of the following is the most appropriate management?

A. Daily multivitamin with iron

**B. Trial of iron and follow-up

C. Bone marrow biopsy

D. Blood transfusion

A 2-year-old child presents with painful swelling on the dorsal surfaces of the hands, feet, fingers, and toes (see lab results and report).

Blood pressure 110/70 mmHg
Heart rate 100 /min
Respiratory rate 22 /min
Temperature 38.9° C

Test Result Normal Values
Hb 77 112-165 g/L
Reticulocyte 3.9 0.2-1.2 %

Blood smear:
Several elongated and crescent shaped red blood cells.

Which of the following is the most appropriate on-going care?

A. Vitamin B12

B. Corticosteroids

C. Iron supplement

**D. Penicillin and immunization

A 5-year-old developed acute abdominal pain in the upper right quadrant, following an upper respiratory tract infection. On examination, there are normal bowel sounds and no rebound tenderness (see lab results and report).

Blood pressure 110/70 mmHg
Heart rate 110 /min
Respiratory rate 24 /min
Temperature 38.9° C

Test Result Normal Values
Hb 72 112-165 g/L
WBC 12 4.5-10.5 x 109/L
Reticulocyte 7.2 0.2-1.2 %

Peripheral smear:
Normochromic normocytic red blood cells with target cells and red cell inclusion bodies.

Which of the following is the most likely diagnosis?

A. GI infarction

B. Lead poisoning

**C. Sickle cell disease

D. Acute appendicitis

An 8-year-old girl presents with fever, many bruises over the entire body, and pain in both legs. Examination confirms pallor, ecchymoses and petechiae on the face, trunk and extremities (see lab results).

Test Result Normal Values
Hb 63 112-165 g/L
WBC 28 4.5-10.5 x 109/L
Platelets count 29 150-400 x 109/L

Which of the following would be the most appropriate diagnostic test?

**A. Bone marrow aspiration

B. Coagulation profile

C. Hb electrophoresis

D. CT scan liver

A 5-day-old infant has significant nasal and rectal bleeding. He was delivered by a midwife at home. The pregnancy was normal and the baby had good Apgar scores. He is breastfeeding well.

Which of the following vitamin deficiencies is the most likely the cause?

A. B1

B. C

C. D

**D. K

A 4-year-old boy presents with a 1-day history of abdominal pain and vomiting. He was afebrile and has no diarrhoea. He has bilateral knee pain, and there was some tenderness of the knee joints, but no effusions. Within 24 hours, he developed a rash on his legs and buttocks, which is petechial and purpuric, and his platelet count was normal.

Which of the following is the most likely diagnosis?

A. Systemic lupus erythematosis

B. Hemolytic uremic syndrome

**C. Henoch-schönlein purpura

D. Kawasaki disease

A 2-year-old boy presents to the Paediatric Clinic for a routine examination. He was born at full term with a birth weight of 3450 grams. The mother breastfed him, for a year and since then he has been fed on whole formula milk with a balanced diet. His weight gain and development have always been normal for his age. At a routine check with one year, a haemoglobin level of 105 g/L was recorded and oral administration of ferrous sulphate drops was started. 6 months later the haemoglobin level was 103 g/L and lead to an increase of the daily dose of ferrous sulphate. Another 3 months later there was no significant rise in the level again. The mother reports having continued giving the ferrous sulphate drops since then. The paediatrician orders a blood cell count (see lab results).

Test Result Normal Values
Hb 91 112-165 g/L
RDW 13.1 11.5-14.5 µm
WBC 10.4 4.5-10.5 x 109/L
MCV 62 80-95 fl
Reticulocyte 0.8 0.2-1.2 %
Platelet count 280 150-400 x 109/L

Which of the following is the most appropriate next step in definitive diagnosis?

A. Serum Vitamin B12 level

B. Bone marrow aspiration

C. Serum iron and ferritin level

**D. Haemoglobin electrophoresis

A 6-year-old girl presents to the Emergency Department with a history of feeling unwell and tired over the last 10 hours, she had 2 previous similar attacks. On examination, she looks pale, has a palpable liver and her spleen is 6 cm below the costal margin (see lab results).

Blood pressure 93/55 mmHg
Heart rate 169 /min
Respiratory rate 28 /min
Temperature 37.5° C

Test Result Normal Values
Hb 52 112-165 g/L
Platelet count 102 150-400 x 109/L
Sickle cell screen Positive Nil

Which of the following is the most appropriate management?

A. Regular blood transfusions

B. Hydrocortisone

**C. Splenectomy

D. Hydroxyurea

A 6-year-old girl presents to the Emergency Department with a history of feeling unwell and tired over the last 10 hours. On examination, she looks pale, had a palpable liver and her spleen is 6 cm below the costal margin (see lab results).

Blood pressure 93/55 mmHg
Heart rate 169 /min
Respiratory rate 28 /min
Temperature 37.5° C

Test Result Normal Values
Hb 52 112-165 g/L
Platelet count 102 150-400 x 109/L
Sickle cell screen Positive Nil

Which of the following is the most likely diagnosis?

**A. Sequestration crisis

B. Evans syndrome

C. Bacterial sepsis

D. Aplastic crisis

A 6-year-old girl presents to the Emergency Department with a history of feeling unwell and tired over the last 10 hours. On examination, she looks pale, had a palpable liver and her spleen is 6 cm below the costal margin (see lab results).

Blood pressure 93/55 mmHg
Heart rate 169 /min
Respiratory rate 28 /min
Temperature 37.5° C

Test Result Normal Values
Hb 52 112-165 g/L
Platelet count 102 150-400 x 109/L
Sickle cell screen Positive Nil

Which of the following is the most appropriate treatment?

**A. Blood transfusion

B. Immunoglobulin

C. Clarithromycin

D. Prenisolone

A 53-day-old boy is referred to the Paediatric Clinic for investigation of anaemia. He was born at full term and he is a known case of G6PD deficiency. On examination, both height and weight are in the 10th percentile, the rest of the examination is normal (see lab results).

Test Result Normal Values
Hb 70 112-165 g/L
Platelet count 350 150-400 x 109/L
Total bilirubin 25.1 <20.5 µmol/L

Urinalysis Result Normal Values
Color Clear Clear or light yellow
Leukocytes 0 0-3 per high power field
Erythrocytes 0 0-2 per high power field

Which of the following is the most likely diagnosis?

A. Haemolysis

B. Iron deficiency

**C. Physiological jaundice

D. Anaemia of chronic disease

A 53-day-old boy is referred to the Paediatric Clinic for investigation of anaemia. He was born at full term and he is a known case of G6PD deficiency. On examination, both height and weight are in the 10th percentile, the rest of the examination is normal (see lab results).

Test Result Normal Values
Hb 70 112-165 g/L
Platelet count 350 150-400 x 109/L
Total bilirubin 25.1 <20.5 µmol/L

Urinalysis Result Normal Values
Color Clear Clear or light yellow
Leukocytes 0 0-3 per high power field
Erythrocytes 0 0-2 per high power field

Which of the following is the best management?

A. Blood transfusion

B. Iron supplement

**C. Reassurance

D. Folic acid

A 2-year-old child with sickle cell disease had an upper respiratory tract infection, which was followed by shortness of breath, and pallor. On examination, looked pale, sick and had a splenomegaly (see lab results).

Blood pressure 90/60 mmHg
Heart rate 110 /min
Respiratory rate 25 /min

Temperature 38.6° C

Test Result Normal Values
Hb 34 112-165 g/L
WBC 3.1 4.5-10.5 x 109/L
Lymphocytes 52 20-40 %
Neutrophils 58 40-60%
Platelets count 166 150-400 x 109/L
Reticulocyte 0.1 0.2-1.2 %
ESR 25 2-10 mm/h

Which of the following is the best immediate management?

A. Splenctomy

B. Fluids and analgesia

C. Intravenous antibiotics

**D. Packed red cell transfusion

A preschool child presents for his routine preschool-entry examination (see lab results).

Test Result Normal Values
HB 90 112-165
RDW 20 11.5-16%
Platelets count 490 150-400 x 109/L
MCV 68 80-95 fl
MCH 26 28-33 pg/cell
MCHC 241 260-340 g/L
Reticulocyte 1.1 0.2-1.2 %
WBC 7.5 4.5-10.5 x 109/L
RBC 5 4.6-4.8 x 1012/L

Which of the following is the most likely diagnosis?

A. A plastic anaemia

B. Thalassemia minor

**C. Iron deficiency anaemia

D. Hereditary spherocytosis

A 1-year-old boy is being investigated for pallor, jaundice, lethargy and delayed growth. On examination, found to be short for his age, with prominent forehead and splenomegaly (see lab results).

Test Result Normal Values
HB 40 112-165
RDW 14 11.5-14.5%
MCV 70 80-95fl
Reticulocyte 2.4 0.2-1.2%
WBC 5.5 4.5-10.5 x 109/L

RBC 5.8 4.6-4.8 x 1012/L

HB electrophoresis
Hb A2 30 2-3%
Hb F 50 1-2%

Which of the following is the most likely diagnosis?

A. Iron deficiency anemia

**B. β- Thalassemia

C. sickle cell disease

D. a- Thalassemia

A 5-day-old infant was delivered normally at home attended by a midwife. He had never been to a hospital, but now noted to have bleeding from the umbilical cord that seems increasing in severity. He has been breastfed since after delivery. The mother had a normal perinatal period, but was diagnosed with epilepsy 10 years ago, and has been taking phenobarbital (see lab results).

Test Result Normal Values
Bleeding time 3.8 up to 4 min
Prothrombin time 21 12-14 sec
APTT 46 30-40 sec

Which of the following is the most appropriate treatment?

A. Corticosteroids

B. Platelet transfusion

[✓ C. Fresh frozen plasma]

**D. Parenteral 1 mg vitamin K1

A 15-year-old patient presents for a routine check-up (see lab results).

Test Result Normal Values
RBC 5.3 4.4-4.8 x 1012/L
WBC 68 4.5-10.5 x 109/L
Hb 98 112-165 g/L
MCV 69 80-95 fl
MCHC 261 260-340 g/L
Reticulocyte 1.0 0.2-1.2%

Which of the following is the most likely diagnosis?

A. Sickle cell anaemia

**B. β-thalassemia trait

C. Iron deficiency anaemia

D. Anaemia of chronic medical disease

A 1-year-old boy presents with prolonged bleeding after circumcision (see lab results).

Test	Result	Normal Values
Bleeding time	1.6	up to 4 min
Prothrombin time	40	12-14 sec
APTT	120	30-40 sec
Platelets count	160	150-400 x 109/L

Which factor deficiency is the most likely cause?

A. VIII

B. VII

C. IX

**D. X

Which of the following signs are more likely to be associated with haemophilia?

A. Epistaxis

B. Gum bleeding

**C. Haemarthrosis

D. Petechial haemorrhages

A 1-year-old boy is diagnosed with factor VII deficiency with level of less than 1%.

Which of the following investigations will be affected?

A. Bleeding time

B. Platelet count

**C. Prothrombin time

D. Activated partial thromboplastin time

A 5-year-old boy presents with sudden and severe bone pain in his hands and feet. On examination, he appears dehydrated (see lab results).

Blood pressure 110/60 mmHg
Heart rate 125 /min
Respiratory rate 28 /min
Temperature 38.8° C rectal

Test	Result	Normal Values
Hb	108	112-165 g/L
HCT	0.30	0.32-0.42
MCV	76	80-95 fl

Which of the following is responsible for this clinical presentation?

A. Aplastic crisis

B. Sequestration crisis

**C. Vaso-occlusive crisis

D. Sickle chest syndrome

Which of the following conditions can lead to hyposplenism?

A. G6PD deficiency

**B. Sickle cell disease

C. Vitamin B12 deficiency

D. Hereditary spherocytosis

A 12-year-old girl presents with bleeding gums while brushing her teeth. This had started 1 week ago after a viral upper respiratory tract infection. On physical examination, the only finding are petechiae on her extremities and abdomen. There is no lymphadenopathy, or hepatosplenomegaly (see lab results).

Test Result Normal Values
Hb 130 112-165 g/L
HCT 0.39 0.32-0.42
MCV 88 80-95 fl
WBC 8 4.5-10.5 x 109/L
Platelets count 20 150-400 x 109/L

Which of the following findings is expected in this patient's bone marrow?

A. Hypoplasia

B. Reduced iron stores

C. Megaloblastic changes

**D. Increased megakaryocytes

A 12-year-old girl presents with bleeding gums while brushing her teeth. This had started 1 week ago after a viral upper respiratory tract infection. On physical examination, the only finding are petechiae on her extremities and abdomen. There is no lymphadenopathy, or hepatosplenomegaly (see lab results and report).

Test Result Normal Values
Hb 130 112-165 g/L
HCT 0.39 0.32-0.42
MCV 88 80-95 fl
WBC 8 4.5-10.5 x 109/L
Platelets count 20 150-400 x 109/L

1 ✓

Bone Marrow:
Increased megakaryocytes.

Which of the following is the most appropriate management?

A. Azathioprine

[✓ B. Prednisolone]

C. Splenectomy

**D. Cyclophosphamide ✗

A 5-year-old boy presents with fever and a rash on his lower limbs, 2 weeks after developing a sore throat. There is also a history of abdominal pain and painful knees and ankles. Physical examination confirms palpable purpuric lesions on the lower limbs that do not blanch on pressure (see lab result).

Test Result Normal Value
ESR 92 2-10 mm/h

Which of the following is the most likely diagnosis?

A. Vitamin C deficiency

B. Factor VII deficiency

**C. Hypersensitivity vasculitis

D. Drug hypersensitivity reaction

A 5-year-old boy presents with sudden and severe bone pain of his hands and feet, and on examination he appears dehydrated.

Blood pressure 105/60 mmHg
Heart rate 100 /min
Respiratory rate 22 /min
Temperature 38.8°C rectal

Which of the following is the most likely diagnosis?

**A. Sickle cell disease

B. Alpha thalassemia

C. Thalassemia major

D. Iron deficiency anaemia

A 3-year-old girl presents with a high-grade fever and chills. Physical examination, confirms that she is anaemic with splenomegaly. Clinical image with giemsa stain is shown (see image).

Which of the following is the most likely etiology?

**A. P. falciparum

B. P. malariae

C. P. ovale

D. P. vivax

A 2-year-old boy with sickle cell anaemia presents to the Paediatric Outpatient Clinic for a second dose of hepatitis A vaccine. According to the mother, he was admitted 3 weeks before with a vaso-occlusive crisis and received a blood transfusion for anaemia.

Which of the following is the most appropriate approach for vaccination?

**A. Vaccinate as per schedule

B. Delay vaccine 3 months

C. Delay vaccine until 6months

D. First, evaluate hepatitis A serology

A 16-year-old boy presents with 6-day fever and abdominal pain. He looks pale and toxic and had a tender and mildly enlarged spleen.

What is the most sensitive culture to be recommended?

A. Stool or urine culture

B. A single blood culture

C. Multiple blood cultures

**D. Bone marrow aspirate culture

A 12-month-old boy is brought to the clinic with a complaint of decreased appetite. The child was born at 36 weeks' gestation and has been fed with cow's milk formula since the age of 9 months. The body weight is 13.6 kg (> 97th percentile) and the length is 75 cm (50th percentile). Physical examination confirms pallor of the skin and buccal mucous membranes. There is also a systolic heart murmur and a palpable spleen (see image and lab results).

Test Result Normal Values
Hb 90 112-165 g/L
WBC 10 4.5-10.5 x 109/L
Platelets count 500 150-400 x 109/L
MCV 70 80-95 fl
Reticulocyte 1.2 0.2%-1.2%
RBC 3.0 4.6-4.8 x 1012/L

Which of the following components need to be replaced?

**A. Iron

B. Folic Acid

C. Vitamin B12

D. Erythrocytes

A 12-month-old boy is brought to the clinic with a complaint of decreased appetite. The child was born at 36 weeks' gestation and has been fed with cow's milk formula since the age of 9 months. The body weight is 13.6 kg (> 97th percentile) and the length is 75 cm (50th percentile). Physical examination confirms pallor of the skin and buccal mucous membranes. There is also a systolic heart murmur and a palpable spleen (see image and lab results).

Test Result Normal Values
Hb 90 112-165 g/L
RBC 3.0 4.6-4.8 x 1012/L

What additional laboratory finding is most likely to be significantly lower than the normal value?

A. WBC

**B. MCV

C. Platelets

D. Reticulocyte count

An 18 month-old girl presents to the Paediatric Clinic with irritability and decreased appetite. The baby was born at 38 weeks' gestation with a birth weight of 2.6 kg. She was breastfed for 9 months and then changed to a cow's milk-based formula. The infant is drinking about 1 liter of formula per day together with solid foods. The mother reports that the stool has been loose and smelly over the last 3 days. Physical examination confirms pallor of the skin and mucous membranes, and systolic heart murmur (see lab results).

Heart rate 120 /min
Respiratory rate 30 /min
Temperature 37.3° C
Oxygen saturation 95% on room air

Test Result Normal Values
Hb 90 112-165 g/L
RBC 3.0 4.6-4.8 x 1012/L

Which of the following is the most likely underlying cause?

A. Gastrointestinal infection

**B. Cow's milk consumption

C. Bone marrow defect

D. Low birth weight

A 2-year-old girl presents with diarrheal stools and weakness over the last 4 days. There is no family history of any serious illness. Physical examination confirms pallor of the skin and mucous membranes and a scleral icterus. The spleen can be palpated 2 cm below the costal margin (see image and lab results).

Heart rate 100 /min
Respiratory rate 28 /min
Temperature 38.6° C

Test Result Normal Values
Hb 55 112-165 g/L
WBC 15 4.5-10.5 x 109/L
Platelets count 200 150-400 x 109/L
Reticulocyte 7.5 0.2-1.2%
RBC 2 4.6-4.8 x 1012/L

Test Result
Direct Coombs test Positive
Indirect Coombs test Positive

Which of the following is the most likely diagnosis?

A. Spherocytosis

B. Fanconi anemia

**C. Autoimmune hemolytic anemia

D. Glucose-6-phosphate dehydrogenase deficiency

A 1-year-old boy is noted to have a microcytic anaemia, on routine screening. A haemoglobin electrophoresis was performed that showed and increased fraction of haemoglobin A2.

Which of the following is the most likely diagnosis?

**A. β-thalassemia

B. Iron deficiency

C. Sickle cell anaemia

D. Folic acid deficiency

A newborn presents with jaundice 12 hours after birth. At 36 hours after birth, the jaundice became worse and blood smear was performed (see image and lab results).

Test Results Normal Values
Hb 91 112-165 g/L
Reticulocyte 7 0.2-1.2 %
Total bilirubin 2800 <205 μmol/L

Which of the following is the most appropriate next step in the investigation?

**A. Osmotic fragility test

B. Pyruvate kinase assay

C. Haemoglobin electrophoresis

D. Measurement of glucose-6-phosphate dehydrogenase activity

A 2-year-old girl presents with low energy and failure to thrive. The child was born at 38 weeks' gestation with a birth weight of 3.3 kg. The actual body weight was 10 kg (3rd percentile). The mother reports poor appetite and little interest in food. The family follows a strict vegetarian diet. A physical examination confirms pallor of the skin and the mucous membranes. There are cracks in the skin at the corner of the mouth and a peculiar appearance of the nails on the finger and toes (see image and lab results).

Heart rate 110 /min
Respiratory rate 36 /min
Temperature 36.8° C
Oxygen saturation 95% on room air

Test Result Normal Values
Hb 90 112-165 g/L
HCT 0.29 0.32-0.42
Platelets count 470 150-400 x 109/L
MCV 78 80-95 fl
MCH 25 28-33 pg/cell

Which of the following is the most appropriate treatment?

A. Transfusion of packed red blood cells

B. Erythropoiesis-stimulating agents

**C. Oral ferrous sulfate

D. Parenteral iron

A 5-year-old child is about to receive a flu vaccination, and the doctor asked the mother about any food allergies the child might have.

Which of the following is the most important to note?

A. Chickens

B. Shellfish

**C. Eggs

D. Nuts

An adolescent has missed the second scheduled dose of a varicella vaccination, with the first injection have been administered 1 year ago.

How should full immunity be achieved?

A. Test for antibodies prior to revaccination

B. Administer a double dose of vaccine

**C. Administer the second dose

D. Repeat the entire series

A 3-year-old child of a parent who is recently diagnosed with pulmonary tuberculosis has a tuberculin skin test. After 72 hours, the size of local induration iss 10 mm.

Which of the following is the most appropriate interpretation?

A. Negative

**B. Positive

C. Needed to be repeated

D. Test is not recommended anymore

A 14-year-old has received all immunizations except chickenpox; but he has never had chickenpox.

What varicella vaccination plan should be used?

A. No vaccination required

B. 1 dose of varicella vaccine

**C. 2 doses given 4 weeks apart

D. 3 doses at 0, 1 and 6 months

An 18-month-old girl presents to the clinic to receive her scheduled vaccines. Her mother reports that she is currently completing a course of antibiotics for tonsillitis, diagnosed 4 days ago. Initially she had fever, irritability, and poor oral intake. Today she is better and started to play and feed normally. Examination reveals a hyperaemic pharynx.

Blood pressure 85/65 mmHg
Heart rate 100 /min
Respiratory rate 25 /min
Temperature 37.3° C

Which of the following is the best decision about the vaccination?

**A. Vaccinate as per schedule

B. Wait until antibiotics finished

C. Postpone the Oral Polio Vaccine

D. Do not administer diphteria-pertussis-tetanus

A full term girl was born to a mother who is hepatitis B surface Ag positive (HbsAg +ve). The baby weighs 3.2 kg and is asymptomatic.

What is the appropriate immunoprophylaxis that should be considered in the first 12 hours?

A. Administer hepatitis B vaccine

B. Give hepatitis B immunoglobulins

**C. Give hepatitis B vaccine and immunoglobulins

D. Measure hepatitis B surface antigen in the newborn

A full term boy was born to a mother diagnosed antenatally with hepatitis B surface Ag positive (HBsAg positive). Her delivery was unremarkable and the newborn weighed 3.4 kg and was normal on assessment. He received the hepatitis B vaccine and hepatitis B Immunoglobulins within the first 4 hours. The mother is very enthusiastic to breastfeed her child as she did with her previous children.

Which of the following is the best advice?

A. Wait 12 hours before

**B. Encourage breastfeeding

C. Advise not to breastfeed

D. Measure HbsAg, then decide

A 1-year-old boy has come for vaccination. The mother explains that his 6-year-old sister has received a renal transplant 2 months ago and is currently on immunosuppressive medications.

Which of the following vaccines should be avoided?

A. Varicella

**B. Oral polio

C. Injectable Influenza

D. Measles, mumps and rubella

A 4-month-old boy is brought to the clinic for routine vaccinations. The mother reports that he has been having 2 days of diarrhoea; described as watery, 3-4 times per day. He is still breastfeeding with no episodes of vomiting.

Blood pressure 88/68 mmHg
Heart rate 120 /min
Respiratory rate 35 /min
Temperature 37.3° C

Which of the following is the best decision to take regarding vaccination?

A. Delay vaccines

**B. Give all vaccines

C. Give Hepatitis B vaccine

D. Give all vaccines except OPV

A 6-month-old girl is brought to the clinic for routine vaccination. The mother reports that she had developed fever associated with a local area of redness and swelling, after the previous 4 month vaccinations and is concerned.

What modification, if any, shall be taken to the vaccination schedule?

**A. None, but give reassurance

B. Do not give the DPT vaccines

C. First, refer for allergen screening

D. Antipyretic and antihistamine prophylaxis

A 6-month-old boy presents to the Paediatric Outpatient Clinic to receive scheduled 6-month vaccinations. His mother reports that he required immediate admission after the 4 month vaccinations with anaphylaxis. She is not aware which vaccine is responsible for this reaction.

Which of the following is the most appropriate way of management?

**A. Screen for allergens first

B. Vaccinate, except with DTP

C. Vaccinate and give reassurance

D. Vaccinate and observe for 1 hour

A 5-month-old boy presents to the clinic after missing his 4-month vaccinations. He appears to be well and thriving. The parents missed his 4-month visit due to transportation difficulties.

What would be the best way to modify his immunization schedule?

A. Arrange to give all missed vaccinations

B. Disregard missed vaccinations, continue to next

**C. Give missed vaccinations, and next appointment

D. Give missed vaccinations at 6 months with others

A 4-year-old girl was involved in a motor-vehicle accident and required splenectomy after severe abdominal trauma with splenic tears.

What additional specific vaccination should she receive?

A. Human papilloma virus vaccine

**B. Meningococcal vaccine

C. Rota virus vaccine

D. Tetanus vaccine

What is the most common minor side effect with routine DTP vaccination?

**A. Injection site erythema

B. Generalised pain

C. Fever of 38.3°C

D. Vomiting

A 1-year-old boy is brought to the clinic for failure to thrive, recurrent oral thrush and hepatosplenomegaly. He had a brother who died at the age of 3 years with severe infection and septic shock.

Which of the following vaccines must be avoided until a diagnosis is made?

**A. Varicella

B. Influenza

C. Injectable polio

D. Pneumococcal conjugate

A 4-month-old girl is brought to the clinic for vaccination. She was born preterm at 32 weeks' gestation due to maternal pre-eclampsia.

Which of the following is the best approach for the patient's immunization schedule?

A. Reduce the vaccine dose for preterm infants

B. Use the adjusted age to schedule vaccinations

C. Use the calculated weight to schedule vaccinations

**D. Follow chronological age for administering vaccines

During a well-baby vaccination supervision visit, the mother reports that her 9-month-old girl had received all her immunizations since birth and she is due for another vaccination.

Which of the following vaccines would be recommended?

A. Oral polio and hepatitis B

B. Measles, mumps and rubella

C. Diphtheria, tetanus and pertussis

**D. Measles and meningococcal conjugate

A 2-month-old baby is brought for his first visit in the Well-Baby Clinic. He was born at 35 weeks by a normal vaginal delivery, and was 1.7 Kg at birth and was managed in an incubator for 2 weeks. He has done well since and is gaining almost 50 grams each day.

Which of the following is the best immunization plan for this visit?

A. Delay for 2 months

B. TdaP instead of DTaP

C. Usual schedule but half dose

**D. Usual schedule and usual dose

A 2-year-old girl with a high, relapsing fever of 9-day duration associated with marked irritability, a non-purulent conjunctivitis, red cracked lips, swollen and erythematous hands and feet, and a maculopapular erythematous rash on the trunk and extremities.

Which of the following is the most likely diagnosis?

A. Epstein bar viral infection

**B. Kawasaki disease

C. Rubella infection

D. Measles

What is the most important measure to protect neonates against infection in a nursery?

**A. Thorough hand washing before and after exams

B. Compulsory use of shoe covers and gowns

C. Wearing sterile gloves before entry

D. Use of prophylactic antibiotics

What is the best way to provide immunologic protection against tetanus neonatorum in new-borns?

A. Inject the newborn with tetanus toxoid

B. Inject the infant with human tetanus antitoxin

C. Inject the mother with toxoid within 72 hours of the birth of her child.

**D. Immunize the mother with tetanus toxoid before or early in pregnancy

A 14-month-old boy is brought to the clinic with severe gram-positive bacterial pneumonia, was referred to the hospital by the family physician. This is his third infection in 4 months. He has 2 healthy sisters aged 3 and 5 years. The family lost a boy at 10 months of age to bacterial pneumonia 6 years ago. The family doctor has sent along some blood test results that shows low all classes of serum immunoglobulin levels, few B cells, but normal numbers and functioning of T cells.

Which of the following is the most likely diagnosis?

A. Transient hypogammaglobulinemia of infancy

B. Common variable hypogammaglobulinemia

C. CD40 Genetic/Metabolic/Metabolic defect

**D. X-linked hypogammaglobulinemia

A 7-year-old boy has had recurrent upper and lower respiratory tract bacterial infections since infancy. On examination, he has eczema and areas of ecchymoses on his skin. His brother and a paternal uncle are similarly affected (see lab results).

Test Result Normal Values
Hb 108 112-165 g/L
WBC 7.6 4.5-10.5 x 109/L
Platelets count 40 150-400 x 109/L

Which of the following is the most likely diagnosis?

A. Severe combined immunodeficiency

B. Bruton agammaglobulinemia

**C. Wiskott-Aldrich syndrome

D. DiGeorge syndrome

A 7-year-old boy is brought to the clinic to receive the injectable influenza vaccine. The father said that last year he had taken the vaccine, but still got the flu. He thought he got flu because he had received the vaccine, and is sceptical about its value.

Which of the following is the best advice?

**A. Killed vaccine have no such risk

B. Attenuated vaccine has some risk

C. Live vaccines have a risk of infection

D. The nature of this vaccine may cause flu

A 1-year-old boy is admitted for investigation of failure to thrive, recurrent oral thrush and hepatosplenomegaly. He had a brother who died at the age of 3 years with severe infection and septic shock.

What advice should be given to the parents regarding their child's vaccinations?

A. Wait until child is 3 years-old

**B. No live vaccines to be given to this child

C. Important that all vaccinations be given

D. No killed vaccines until brother diagnosed

An 8-year-old girl is brought to the Paediatric Clinic with pain in the left wrist and right knee. These symptoms have occurred several times in the past 6 months with asymptomatic periods in between. Usually, the pain is worse in the morning and it improves during the day. She is otherwise healthy. On physical examination, there is swelling and a decreased range of motion of both joints.

Which of the following is the most likely diagnosis?

A. Septic arthritis

B. Reactive arthritis

C. Acute rheumatic fever

**D. Juvenile idiopathic arthritis

A 9-year-old boy presents with abdominal pain and swelling of his right ankle. He had had an upper respiratory tract infection 3 weeks earlier. On examination, he had multiple maculopapular lesions (see image and lab result).

Test Result Normal Value
Erythrocytes 15 0-2 per high power field

Which of the following is the most appropriate management?

A. Antibiotics

B. Platelet transfusion

**C. Supportive treatment

D. Factor VIII transfusion

A 2-year-old child presents with bruising and generalized petechiae, mostly on the legs. The child has always been healthy. The parents report that he had an upper respiratory infection 2 weeks before that resolved without medication (see lab results).

Test Results Normal Values
Hb 131 112-165 g/L
HCT 0.39 0.32-0.42
WBC 6.8 4.5-10.5 x 109/L
Lymphocytes 22 20-40 %
Monocytes 2 2-8 %
Neutrophils 58 40-60%
Platelets count 15 150-400 x 109/L

Which of the following is the most appropriate management?

A. Splenectomy

B. Platelet transfusion

C. Factor VIII transfusion

**D. Intravenous γ-globulin

A 1-month-old infant referred to the dental clinic with presentation of white plaques visible on the surfaces of the dorsal tongue and hard palate, which can be wiped off. A clinical diagnosis was made and the infant was started on nystatin 4 times a day for a period of 10 days.

Which of the following is the most likely diagnosis?

A. Erythematous candidiasis

B. Gingivostomatitis

C. Leukoplakia

**D. Oral thrush

A 6-year-old boy presents to the Medical Care Centre with high fever and cough. Examination shows maculo-papular rash on his face and small white spots appeared on the inner part of his cheeks.

Which of the following agents is most likely responsible?

A. Mumps virus

**B. Measles virus

C. Varicella zoster virus

D. Herpes simplex virus type-1

A 12-year-old girl presents to the Emergency Department with mild fever. Examination shows generalized vesicular rash on her chest, trunk and on her arms and legs.

Which of the following laboratory tests have a higher diagnostic value?

A. Mumps virus IgM

B. HSV-1 IgM

C. HSV-2 IgM

**D. VZV IgM

Which of the following organs is most commonly affected by mumps in a 4-year-old boy?

A. Skin

B. Lungs

C. Testes

**D. Parotid

A child is brought to Paediatric Clinic with cough, fever, rhinorrhoea, malaise, with conjunctival erythema. There are small, grayish, irregular lesions surrounded by an erythematous base, on the buccal mucus membrane near the second molar teeth.

Which of the following is the most likely diagnosis?

**A. Measles

B. Rubella

C. Parainfluenza

D. Respiratory syncytial infection

A 4-year-old child suddenly developed a high fever, chills, and vomiting. Examination shows nuchal rigidity and a positive Kernig's sign. Petechial lesions are noted on both extremities and over the abdomen.

Which of the following is the most likely diagnosis?

**A. Meningococcal meningitis

B. Pneumococcal meningitis

C. Aseptic meningitis

D. Encephalitis

A 2-year-old, severely ill child has been irritable and pyrexial for 2 days. the child started vomiting, appeared drowsy, and has deteriorated rapidly during the day. In addition, a petechial rash started today which has spread extremely quickly around the body.

Which of the following is the most likely diagnosis?

A. Rocky mountain fever

B. Kawasaki syndrome

**C. Meningococcemia

D. Measles

A 7-year-old child is brought to the Emergency Department with a history of fever and vomiting for 2 days. On examination, he is dehydrated, comatose and acidotic (see lab results).

CSF Test	Result	Normal Values
Cells	20	0-3 / µL
Total Protein	0.45	0.22-0.33 g/L
Glucose	3.5	2.50-4.8 mmol/L

Which of the following is the most likely the diagnosis?

A. Tubercular meningitis

B. Salicylate poisoning

C. Diabetic coma

**D. Viral meningitis

A 9-year-old child presents with a fever and sore throat associated with bilateral knee pain. The laboratory investigation shows a high sedimentation rate.

Which of the following is the most likely diagnosis?

A. Juvenile rheumatoid arthritis

B. Osgood-schlatter disease

C. Infectious mononucleosis

**D. Acute rheumatic fever

A 4-year-old has a 3-day history of fever, irritability, and anorexia. Examination confirms painful vesicles over the mucosa of the soft palate and posterior pharynx, sparing the gingiva and anterior oral cavity.

Blood pressure 110/70 mmHg
Heart rate 120 /min
Respiratory rate 30 /min
Temperature 39.0° C

Which of the following is the most likely diagnosis?

A. Congenital epulis

B. Aphthous ulcer

C. Gingival cyst

**D. Herpangina

A 12-year-old child was prescribed antibiotics for treatment of a chest infection. 6 weeks after cessation of antibiotics, the patient presents with fever, abdominal pain, and profuse watery stools for the past month. Investigation confirms fecal leucocytes.

Which of the following is the most likely pathogen?

A. Clostridium perfringens

**B. Clostridium difficile

C. Giardia lamblia

D. Escherichia coli

A 15-year-old child presents to the Outpatient Clinic suffering from abdominal pain, diarrhoea, and tenesmus for the last 2 weeks. There is mucous and blood present in the stool.

Which of the following is the most likely diagnosis?

**A. Amoebiasis

B. Taenia saginata

C. Bile salt deficiency

D. Intestinal ascariasis

A 14-month-old girl is brought to the clinic with vomiting and diarrhoea. The mother reports her child is less active. On examination, she has mild dehydration with an estimated fluid deficit of 5% (see lab results).

Weigh 10 Kg

Test Result Normal Values
Sodium 128 134-146 mmol/L
Potassium 3.3 3.5-5.1 mmol/L

Chloride 94 97-108 mmol/L
Bicarbonate 12 21-28 mmol/L

How much intravenous fluid (ml/day) should be given?

A. 1000

B. 1250

**C. 1500

D. 1750

An 18-month-old child presents to the Emergency Department after a brief, generalized tonic clonic seizure. He has had a large, watery stool that had both blood and mucus in it. He is now postictal.

Blood pressure 100/60 mmHg
Heart rate 110 /min
Respiratory rate 28 /min
Temperature 40.0° C

Which of the following is the most likely cause?

A. Campylobacter

B. Salmonella

C. Rotavirus

**D. Shigella

A 3-year-old boy presents with painless abdominal distension, he has had occasional attacks of abdominal pain, vomiting, and bloody urine. On examination, there is a smooth firm mass in the right loin, an absent iris and undescended testes (see lab results).

Urinalysis Result Normal Values
Color Clear Clear or light yellow
Appearance Turbid Clear
Specific gravity 1.025 1.001-1.030
pH 7.5 4.3-8
Leukocytes 5 0-3 per high power field
Erythrocytes 15 0-2 per high power field
Color Clear Clear or light yellow

Which of the following is the most likely diagnosis?

A. Hydronephrosis

**B. Nephroblastoma

C. Urinary tract infection

D. Polycystic kidney disease

A 6-year-old girl developed reddish urine. Her parents stat that she had been constipated for the last 2 weeks and recently became incontinent. On examination, there is abdominal tenderness, and no organomegaly (see lab results).

Blood pressure 115/76mmHg
Heart rate 76/min
Respiratory rate 27 /min
Temperature 38.9° C

Test Result Normal Values
WBC 9.5 4.5-10.5 x 109/L
Hb 79 112-165 g/L
Platelets count 325 150-400 x 109/L

Urine Analysis Result Normal Values
Leukocytes 25-30 0-3 per high power field
Erythrocytes 30-35 0-2 per high power field
Protein + Absent
Blood +++ Absent

Which of the following is most likely diagnosis?

**A. Urinary tract infection

B. Henoch-schönleinpurpura

C. Autoimmune haemolytic anaemia

D. Post streptococcal glomerulonephritis

A 6-year-old child presents with malaise, fever, cough, nasal discharge, and conjunctivitis. Several days later the patient develops a maculopapular rash starting on the face and rapidly spreading to the rest of the body.

Which of the following viruses is most likely the cause?

A. Epstein-barr

B. Coxsackie

C. Vaccinia

**D. Rubella

A 3-year-old child presents with a 1-week history of malaise, anorexia, nasal discharge, and conjunctivitis. The parent states that the child has also had 2 days of paroxysmal coughing spells with a stridor "whoop."

Which of the following is the most likely diagnosis?

**A. Pertussis

B. Epiglottitis

C. Psittacosis

D. Mycoplasma

A 6-year-old child presents with a low-grade fever, malaise, conjunctivitis, coryza, and a cough. Recently, a rash of discrete pink macules began on the face and extends to the hands and feet.

Which of the following is the most likely diagnosis?

A. Gonococcal bacteremia

B. Toxic shock syndrome

C. Reiter's syndrome

**D. Rubella

A 6-month-old infant develops a cough, coryza, fever, expiratory wheezing, grunting, tachypnea, rib retractions, and air trapping.

Which of the following is optimal immediate treatment?

A. Erythromycin

B. Penicillin

C. Steroids

**D. Oxygen

A 5-year-old childis brought to the clinic with a febrile illness with a cough and separate irregularly shaped (blotchy) rashes. He has not had any routine vaccinations. On physical examination, there is enlarged tender cervical lymph nodes. There are also erythematous maculopapular rashes behind the ear, face and neck and to a lesser extent on the trunk.

Which of the following is the most likely diagnosis?

A. Chickenpox

**B. Measles

C. Mumps

D. Rubella

A 1-year-old girl presents to the Paediatrics Emergency Department at night with episodes of loud coughing and refusal to feed. There is a history of upper airway infection with nasal congestion and sneezing over the last week. She has not received any routine immunizations. During the physical examination, there are repetitive violent fits of a hacking cough that are followed by forceful, high-pitched inhalations accompanied by facial cyanosis. Between attacks the girl appears exhausted and apathetic.

Heart rate 150 /min
Respiratory rate 60 /min
Temperature 36.6° C
Oxygen saturation 92% on room air

Which of the following diagnostic test would be most appropriate?

**A. Nasopharyngeal swabbing

B. Sweat chloride test

C. Chest radiography

D. Serologic testing

A 1-year-old girl presents to the Paediatrics Emergency Department at night with episodes of loud cough and refusal to feed. There is a history of upper airway infection with nasal congestion and sneezing over the last week. She has not received any routine immunizations. During the physical examination, there are repetitive violent fits of a hacking cough that are followed by forceful, high-pitched inhalations and accompanied by facial cyanosis. Between attacks the girl appeared exhausted and apathetic.

Heart rate 150 /min
Respiratory rate 60 /min
Temperature 36.6° C
Oxygen saturation 92% on room air

Which of the following is the most likely cause?

**A. Bordetella pertussis

B. Respiratory syncytial virus

C. Streptococcus pneumonia

D. Haemophilus influenza type B

A 1-year-old boy is seen on a routine examination. He has had vertically transmitted HIV infection and now has a low T-cell count.

Which of the following vaccines would be contraindicated?

**A. Varicella

B. Hepatitis B

C. Pneumococcal

D. Dipheteria, Tetanus, acellular Pertusis

A 6-year-old girl presents with ear pain and swelling of the pinna. She had returned the previous day from swimming camp and developed these complains 1 day before. On examination, she has significant pain when moving the pinna and a foul smelling discharge from the ear canal.

Which of the following is the most appropriate management?

A. Oral amoxicilin

B. Oral cefuroxime

**C. Topical neomycin

D. Topical dexametasone

A 10-year-old boy presents to the Paediatric Clinic with a skin rash. The parents report that the symptoms had started with a single red spot over a small scratch and have spread over the last 4 days. There are several lesions on the cheeks, the trunk and the upper limbs. Physical examination confirms swollen lymph nodes in the arm pits and groins (see image).

Blood pressure 100/65 mmHg
Heart rate 80 /min
Respiratory rate 24 /min
Temperature 37.4° C

Which of the following is the most likely diagnosis?

**A. Impetigo

B. Candidiasis

C. Herpes simplex

D. Dermatitis herpetiformis

A 10-year-old boy presents to the Paediatric Clinic with a skin rash. The parents report that the symptoms had started with a single red spot over a small scratch and have spread over the last 4 days. There are several lesions on the cheeks, the trunk and the upper limbs. Physical examination confirms swollen lymph nodes in the arm pits and groins (see image).

Blood pressure 100/65 mmHg
Heart rate 80 /min
Respiratory rate 24 /min
Temperature 37.4° C

Which of the following is the most appropriate treatment?

A. Steroids

B. Acyclovir

**C. Antibiotics

D. Antiseptics

A 5-year-old boy presents with a sore throat and refusal to eat. The mother reported that the child has had an increased temperature for the last 3 days. Several children that attended the same play group have developed similar symptoms. Physical examination shows spots and blisters on the palm of both hands as well as on the buttocks. There are small ulcers on the palate (see image).

Heart rate 110 /min
Respiratory rate 30 /min
Temperature 38.6° C

Which of the following additional physical findings is most likely to have?

**A. Spots on the soles

B. Swollen tonsils

C. Scratch marks

D. Diarrhoea

A 3-year-old boy presents to the Paediatric Emergency Department with fever, headache and generalized muscular pain over the last 24 hours. The child appears sleepy and irritable. There are several spots on the buttocks and legs. Physical examination confirms stiffness of the neck. After performing a lumbar puncture, an intravenous infusion of penicillin G is started. The parents also report that the child's 6-year-old brother had been in close contact with this boy and ask how best to look after him (see image and report).

Blood pressure 90/55 mmHg
Heart rate 120 /min
Respiratory rate 38 /min
Temperature 39° C
Oxygen saturation 95% on room air

CSF analysis:
Elevated cell count and Gram negative diplococcic.

What would be the best management for the older brother?

A. Hospital admission and monitoring

B. Intravenous penicillin G

C. Active immunization

**D. Oral rifampicin

A 3-year-old boy presents to the Paediatric Emergency Department with fever, headache and generalized muscular pain over the last 24 hours. The child appears sleepy and irritable. There are several spots on the buttocks and legs. Physical examination confirms stiffness of the neck. After performing a lumbar puncture, an intravenous infusion of penicillin G is started (see image, lab result and report).

Blood pressure 90/55 mmHg
Heart rate 120 /min
Respiratory rate 38 /min
Temperature 39° C
Oxygen saturation 95% on room air

Test Result Normal Value
WBC 25 4.5-10.5 x 109/L

CSF Culture:
Gram negative diplococcic.

Which of the following is the most likely late complication?

A. Ataxia

B. Seizures

**C. Deafness

D. Cranial nerve palsy

During physical examination of a child, the physician asks the patient to face the wall, bend forward and let the arms hang down unsupported.

What does this test screen for?

**A. Scoliosis

B. Sexual abuse

C. Rectal prolapse

D. Leg length symmetry

A 9-year-old girl is brought to the Emergency Department with abnormal movements and a recent history of tea coloured urine. Her parents described a preceding skin eruption. On examination, the child looks unwell, unresponsive and lower limb swelling is noted (see lab results).

Blood pressure 155/105 mmHg
Heart rate 110 /min
Respiratory rate 25 /min
Temperature 37.4° C

Test Result Normal Values
Hb 78 112-165 g/L
Platelets count 165 150-400 x 109/L
Blood urea nitrogen 13.1 1.8 to 6.4 mmol/L
Creatinine 101 27-88 µmol/L
Complement C3 0.5 0.7-1.5 g/L

Which of the following is the most likely diagnosis?

**A. Post streptococcal glomerulonephritis

B. Hemolyticureamic syndrome

C. Henoch-schönleinpurpura

D. Acute renal failure

A 2-year-old child presents to the clinic with chalky discoloration on both sides of the teeth. The child sleeps with the milk bottle in his mouth. On examination, there are opaque discolorations on the backsides of the central maxillary incisors and the first molars.

Which of the following is the most likely diagnosis?

A. Herpetic gingivostomatitis

**B. Nursing bottle caries

C. Gingival hyperplasia

D. Congenital syphilis

An 18-month-old infant presents to the Paediatric Outpatient Clinic for evaluation of delay in walking. It was observed that there is widening of the lower ends of long bones (see lab results).

Height 78 cm
Weight 10 Kg

Test Result Normal Values
Calcium total 8.1 2.2-2.7 mmol/L
Phosphate 2.1 1.3-2.3 mmol/L
Alkaline phosphatase 1020 100-320 U/L

Which of the following is the most likely cause?

A. Hypophosphatesia

B. Renal osteodystrophy

**C. Vitamin D deficient rickets

D. Familial hypophosphatemic rickets

Which of the following is a known side effect of beclomethasone use in children?

A. Intraocular hypertension

B. Excitable behaviour

C. Sleep disturbance

**D. Growth retardation

A 12-year-old boy is brought to the Primary Health Care Clinic with knee pain for the past 3 weeks. The pain increases when he runs, jumps and climbs stairs. He plays basketball and football at school and has no history of injury or trauma. Physical examination is normal except for mild edema over the tibial tuberosity.

Which of the following is the most likely diagnosis?

A. Septic arthritis

B. Patellar dislocation

**C. Osgood-schlater disease

D. Iliotibial band friction syndrome

An 18-month-old child is brought to the Emergency Department with fever, irritability and refusal to move the left lower extremity. Physical examination confirms a swollen, erythematous knee with resistance to passive mobilization.

Which of the following would be the single most important test?

A. Blood culture

B. X-ray of the knee

C. Complete blood count

**D. Examination of joint fluid

A 3-year-old boy fell on his outstretched hand while playing in the yard. On examination, there is tenderness and swelling of the forearm, which seemed to be abnormally curved (see image).

Which of the following is the most appropriate management?

A. Perform a CT scan of forearm

B. Rest, ice, compression and elevation

C. Administer paracetamol and discharge

**D. Reduce the fracture and cast the forearm

An 8-year-old girl is referred to the paediatric nephrologist for increasing lethargy and extremely puffy eyelids for a week. Urine analysis showed 4+ proteins but glucose, red blood cells and ketones were absent.

Which of the following is the most likely diagnosis?

A. Membrano-proliferative glomerulonephritis

B. Focal segmental glomerulosclerosis

**C. Minimal change disease

D. Berger's disease

A 5-year-old child has a 1-day history of cola-coloured urine with red blood cell casts. 2 weeks ago, the child had a culture-positive streptococcal tonsillitis. A diagnosis acute post-streptococcal glomerulonephritis is suspected.

Which of the following is the best clinical evidence to support the diagnosis?

A. Mildly elevated blood creatinine

B. Negative antinuclear antibody

C. Positive streptozyme test

**D. Low C3

A 4-year-old girl presents to the clinic for the 4-6-year vaccinations. She has steroid-dependent nephrotic syndrome. She has been on daily steroids 2 mg/kg/day for the last 6 weeks.

Examination reveals cushingoid facies and abdominal striae.

Which of the following is the best approach for immunizations?

**A. Defer live vaccines until off steroid 1 month

B. Give immunoglobulins instead of vaccines

C. Decrease the dose of live vaccines

D. Give all vaccinations as scheduled

A 14-year-old boy presents to the clinic complaining of "brown urine" for the past 3 days. 2 weeks ago, he had 2 days of fever and a sore throat, but he improved spontaneously and has been well ever since. On physical examination, only periorbital edema is noted (see lab results).

Blood pressure 136/92 mmHg
Heart rate 98 /min
Respiratory rate 28 /min
Temperature 37 ° C

Urinalysis Result Normal Values
Specific gravity 1.035 1001-1030
Proteins ++ Absent
Blood ++ Absent

Which of the following is the most likely diagnosis?

A. IgA nephropathy

B. Acute pyelonephritis

C. Hemolytic-uremic syndrome

**D. Post-streptococcal glomerulonephritis

A 5-year-old boy is evaluated for generalized swelling of the face, abdomen and extremities over the past 3 weeks. The mother does not report any significant past medical problems and there is no history of fever or sore throat. There is no shortness of breath or cough. On examination, he appears comfortable and has significant oedema of his face and lower extremities. The child will be started on a low sodium diet (see lab results).

Temperature 37.1°C
Heart rate 88/min
Blood pressure 100/60 mmHg
Respiratory rate 16/min

Serum Test Results Normal Value
Serum albumin 25 36-52 g/L

Urinalysis Result Normal Values
Proteins 3+ 0
Erythrocytes 0 0-2 per high power field

24 Urine Analysis Results Normal Value
24 hr urine protein 140 0.8-14 mg/dl

Which of the following should be recommended in addition to the diet?

A. Furosemide

B. Renal biopsy

**C. Corticosteroid trial

D. Admit and start dialysis

An 11-month-old child presents with failure to thrive, frequent large volumes of urine, excessive thirst, and 3 episodes of dehydration not associated with vomiting or diarrhoea. Several boys in his family showed similar symptoms.

Which of the following is the most likely diagnosis?

A. Diabetes mellitus

**B. Diabetes insipidus

C. Water intoxication

D. Nephrotic syndrome

A 3-year-old child presents to the Emergency Department with a history of bloody diarrhoea and oliguria. The parents report that the child had started a fever, vomiting, diarrhoea and abdominal pain 7 days before, shortly after they ate at a fast-food restaurant. On physical examination, the child appears ill and in distress. She is also pale and lethargic (see lab results).

Test Results Normal Values
Hb 83 112-165 g/L
WBC 22 4.5-10.5 x 109/L
Platelets count 50 150-400 x 109 /L

Urinalysis Results Normal Values
Proteins + Absent
Erythrocytes 10 0-2 per high power field

Which of the following is the most appropriate management strategy?

A. Steroids

B. Antibiotics

**C. Supportive care

D. Watchful waiting at home

Which of the following criteria is utilized to diagnose hypertension in a 12-year-old girl?

A. Blood pressure >120/80 mmHg

B. Blood pressure >140/90 mmHg

C. >90th percentile for the age and sex

**D. >95th percentile for the age and sex

A child is brought to the clinic with chronic proteinuria renal disease and hypertension. The parents are concerned about progression to end-stage renal disease.

Which of the following drugs would be most useful in preventing this progression?

**A. Enalapril

B. Clonidine

C. Propanolol

D. Amlodipine

A 5-year-old child presents to the Emergency Department with a 4-day history of malaise, poor oral intake, diarrhoea, and decreased urine output. Physical examination confirms a tachycardia, xerostomia and sunken eyes (see lab results).

Test Results Normal Values
Blood urea nitrogen 14.9 1.8 to 6.4 mmol/L
Creatinine 180 27-62 µmol/L
Potassium 5.5 3.5-5.1 mmol/L
Bicarbonate 14 21-28 mmol/L

Which of the following is the most appropriate management?

A. Dialysis

B. Diuretics

**C. Normal saline

D. NaHCO3 solution

An infant girl, born to a 24-year-old woman, diagnosed clinically as Down's syndrome. The mother asked about the risk in any future pregnancy.

Which of the following is the appropriate investigation to determine this risk?

A. Karyotyping for this infant

B. Amniocentesis in next pregnancy

C. Ultrasound during next pregnancy

**D. Karyotyping for this infant and mother

A 3-year-old girl presents to the Paediatric Emergency Department in the early morning hours with a barking cough, that worsens with crying. There is a history of mild cough and temperatures around 38° C (rectal) over the last 3 days. Physical examination confirms an inflamed throat and mild suprasternal retractions.

Blood pressure 95/65 mmHg
Heart rate 90 /min
Respiratory rate 34 /min
Temperature 39.3° C

Which of the following is the most likely at auscultatory finding?

A. Crepitation

B. Wheezing

**C. Stridor

D. Gasp

A 4-year-old boy presents to the Paediatric Emergency Department at 3 a.m. with a barking cough and mild respiratory distress. The parents report that he had an airway infection over the last 2 days that had suddenly worsened. The boy appears irritable. Physical examination confirms an inspiratory stridor. The child speaks with a hoarse voice.

Blood pressure 90/65 mmHg
Heart rate 110 /min
Respiratory rate 30 /min
Temperature 38° C
Oxygen saturation 92% on room air

Which additional finding would be cause for concern?

A. Tachypnea

B. Nasal flaring

C. Expiratory stridor

**D. Bluish coloured lips

A 12-month-old boy presents to the Paediatric Emergency Department in the early morning hours with nasal congestion and a barking cough and 3 days history of a mild airway infection. Physical examination shows suprasternal retractions and nasal flaring. The back of the throat is reddened. Lung fields are clear on auscultation. The inhalation of nebulized epinephrine temporarily improves the symptoms.

Heart rate 110 /min
Respiratory rate 30 /min
Temperature 38.5° C
Oxygen saturation 94% on room air

Which of the following is the most appropriate next step in management?

**A. Steroids

B. Antibiotics

C. Antihistamine

D. Bronchodilators

An 8-month-old child presents to the Paediatric Emergency Department in the early morning hours. He has laboured breathing and a barking cough that becomes worse when crying. There is a 2-day history of nasal congestion and dry cough. Physical examination confirms nasal flaring and a reddened throat. There is also a harsh, high-pitched sound when the child breathes in. Auscultation over the lung fields is normal. The boy is anxious and cries with a hoarse voice.

Heart rate 110 /min
Respiratory rate 30 /min
Temperature 39° C
Oxygen saturation 94% on room air

Which of the following is the most likely cause?

**A. Viral

B. Allergy

C. Bacterial

D. Foreign body

A 3-year-old girl presents to the Paediatric Emergency Department at night with a barking, dry cough and laboured breathing. There is a 3-day history of nasal obstruction and cough that had worsened over the last 2 hours. The child appears anxious and cries with a hoarse voice. There is a sharp, high-pitched sound on inspiration. Physical examination confirms indrawing of the chest wall and a reddened throat. A single treatment with nebulized epinephrine results in a quick improvement of the airway symptoms. 30 minutes after the inhalation the coughing and the breathing difficulties reappear.

Which of the following is the next step in management?

A. Observation in clinic

B. Intravenous steroids

C. Oxygen administration

**D. Repeat epinephrine inhalation

A 6-month-old boy presents to the paediatrician with a loud barking cough and a rectal temperature of 38° C. The parents report a cold for the last 3 days that worsens at night. The coughing is aggravated with crying and there is a high-pitched, rasping sound on inhalation. Physical examination confirms a reddened throat and a nasal obstruction (see report).

Chest X-ray:
Normal.

Which of the following is the most likely cause?

**A. Parainfluenza virus

B. Mycoplasma pneumonia

C. Respiratory syncytial virus

D. Haemophilus influenza type B

A 1-year-old girl is brought to the Paediatric Emergency Department in the early morning with breathing difficulties. She has a dry cough that sounds like the barking of a sea lion and gets worse when she is crying. Every time the infant breathes in, there is a high-pitched sound. There is also a 4-day history of a mild upper airway infection.

Blood pressure 80/65 mmHg
Heart rate 120 /min
Respiratory rate 40 /min
Temperature 38.5° C

Which of the following is the most appropriate way to establish the diagnosis?

A. Chest X-ray

B. Spirometry ✓

C. Pharyngeal swab

**D. Clinical examination

An 18-month-old child is brought to the clinic with mild atopic eczema. The parents report that he woke up last night with stridor and a barking cough. There are no preceding or associated upper respiratory tract infection symptoms. The symptoms resolved spontaneously a few hours later. It is the second episode of this nature over the past 6 months.

Which of the following is the most likely diagnosis?

A. Acute epiglottitis ?

B. Bronchial asthma

C. Spasmodic croup

**D. Angioneurotic edema

An 8-year-old girl with presents with sore a throat and a temperature of 38°C. History reveals, she has not received any childhood immunization. A clinical examination confirms a severely swollen and edematous neck region with enlarged cervical lymph nodes. Her pharynx is erythematous with bleeding spots when a swab is taken for culture. An inspiratory stridor is noted upon auscultation of the lungs.

Which of the following is the most likely diagnosis?

**A. Streptococcal pharyngitis

B. Diphtheria ?

C. Pertussis

D. Thrush

A 2-year-old is brought to the clinic with sore throat and high-grade fever for 5 days. On examination, he is febrile and mildly dehydrated. The pharynx and tonsillar area is congested along with inflammation of the mouth and lips associated with gingivitis. Lesions in the mouth and lips appear as whitish-yellow plaques with erythematous base.

Which of the following is the most likely cause?

A. Adenovirus

B. Coxsackie virus

**C. Herpes simplex virus

D. Epstein-barr virus

A16-year-old asymptomatic boy presents for a sports participation physical examination. He is asthmatic since the age of 4 years and uses albuterol on rare occasion, which gives rapid and complete relief.

Which of the following questions is best to ask to evaluate whether the current control is satisfactory?

A. "Are you able to keep up with your teammates?"

**B. "Are you using your inhaler more frequently?" ✓

C. "Are you coughing during meals?"

D. "Are you coughing at night?"

A 7-month-old presents with low-grade fever and a dry cough for the last 3 days. On examination, there is wheezing over both lung fields (see report).

Heart Rate 127 /min
Respiratory Rate 47 /min
Temperature 38.9° C

Chest X-ray:
Hyperinflation and some infiltrate.

Which of the following is the most likely diagnosis?

A. Asthma

B. Sinusitis

C. Influenza

**D. Bronchiolitis

A 3-year-old alert and oriented girl presents to the Paediatric Emergency Department at 2 a.m. with breathing difficulties and a brassy, barking cough. There is inspiratory stridor at rest and a hoarse voice. The girl has been suffering from a viral upper airway infection for the past week. A physical examination shows moderate chest wall retractions. On auscultation, there is decreased air entry. The extremities and buccal membranes appear pink and moist.

Heart rate 180 /min
Respiratory rate 60 /min
Temperature 39.9° C rectal
Oxygen saturation 93% on room air

Which of the following is the most appropriate management?

A. Broad spectrum antibiotic treatment

**B. Nebulized epinephrine and oral steroids

C. Inhalation with salbutamol and budenoside

D. Cough suppression with codeine hydrochloride

A 1-year-old child is brought to the clinic with a high fever, cough and respiratory distress for 3 days. On auscultation of the chest, there are generalised fine crackles (see report).

Chest X-ray:
Showed puffy infiltrates with ill-defined margins throughout both lung fields.

Which of the following is the most likely diagnosis?

**A. Bronchopneumonia

B. Acute epiglotitis

C. Bronchiactasis

D. Cystic fibrosis

An 8-year-old sickle cell child arrives at the Emergency Department in respiratory distress. Over the previous 3 days, the child has become progressively tired and pale (see lab result).

Test Result Normal Value
Hb 31 112-165 g/L

Which of the following is the most likely cause?

A. Cytomegalovirus

**B. Parvovirus B19

C. Coxsackie A16

D. Echovirus 11

A 2-month -old boy presents to the Paediatric Emergency Department with coughing, wheezing and rapid breathing for the last 2 days. The infant was born at 38 weeks' gestation; his birth weight is 3.5 kg and now weighs 5.2 kg. He had developed a runny nose, irritability and difficulties feeding without having to pause several times. His 3-year-old brother has a cold with fever and cough. Physical examination shows a prolonged expiratory time, nasal flaring and subcostal retractions. Cardiac auscultation results are normal and the spleen and liver are of normal size for the child's age.

Blood pressure 86/58 mmHg
Heart rate 146 /min
Respiratory rate 56 /min
Temperature 38.6° C
Oxygen saturation 96% on room air

Which of the following is the most appropriate next step in making a definitive diagnosis?

A. Chest X-ray

B. Throat swap

C. Bronchoscpoy

**D. Nasopharyngeal aspirate

A 3-year-old child is a known asthmatic who usually has 1 acute exacerbation each month. The acute symptoms are relieved by nebulizer therapy at the Emergency Department or the nearby health centre.

Which of the following should be included in the daily management?

A. Slow-release theophylline

B. Sodium cromoglycate

**C. Inhaled budesonide

D. Oral steroids

A 22-month-old boy presents to the Emergency Department with a sudden onset of respiratory distress during a family picnic. He is afebrile and has otherwise been well. Physical examination demonstrates unilateral wheezing in the right hemithorax.

Which of the following is the most likely to be seen in his chest X-ray?

A. Pneumothorax on the right side

B. Consolidation of the right lower lobe

C. Lower lobe collapse on the right side

**D. Hyperlnflation of the right lung with mediastinal shift to the left

Which of the following is the most frequent agent causing acute bronchiolitis?

A. Adenovirus

B. Parainfluenza

C. Mycoplasma pneumonia

**D. Respiratory syncytial virus

A 3-year-old child admitted to the hospital to initiate antibiotic treatment for pneumonia. She has long history of sinusitis and lower respiratory tract infections. During the current admission, she underwent fibre optic bronchoscopy with sputum collection and both pseudomonas aeruginosa and burkholderia cepacia are isolated.

Which of the following is the most likely diagnosis?

A. Asthma

**B. Cystic fibrosis

C. Primary ciliary dyskinesia

D. Alpha1-Antitrypsin deficiency

A 10-year-old boy is admitted to the hospital due to acute exacerbation of asthma. He is currently medicated with montelukast once daily and has last been seen by his primary care physician over 6 months ago. He reports daily episodes of dry cough and wheezing that are exacerbated by exercise. After admission, his symptoms stabilized with the administration of inhaled albuterol.

Which of the following the most appropriate long-term maintenance therapy?

A. Oral steroids once daily, plus a long-acting beta-2 agonist as needed

**B. Inhaled corticosteroid twice-daily, plus a short acting beta-2 agonist as needed

C. Inhaled long-acting beta-2 agonist, plus a short acting beta-2 agonist as needed

D. Leukotriene receptor antagonist once daily plus a short acting beta-2 agonist as needed

A 5-week-old baby is brought to the clinic with low-grade fever and difficulty breathing. Her parents report that she had 2 episodes in which she appeared to have stopped breathing. Physical examination confirms subcostal retractions with inspiration and diffuse bilateral wheeze.

Temperature 37.9 °C
Heart Rate 130 /min
Respiratory Rate 55 /min
Oxygen saturation 90%

Which of the following is the most appropriate treatment?

A. Inhaled corticosteroids

B. Ventilatory management

C. Broad spectrum antibiotics

**D. Supportive care and hydration

A 20-month-old child is brought to the Emergency Department due to respiratory distress with stridor and fever. Her parents mention that 2 days ago she started rhinorrhoea and mild cough with progressive worsening of the cough that is now "barky".

Which of the following is the most likely diagnosis?

A. Tracheomalacia

B. Tracheal foreign body

**C. Laryngotracheobronchitis

D. Acute infectious laryngitis

A 6-year-old girl presents to the Emergency Department with a history of feeling unwell and tiredness over the last 10 hours. On examination, she looks pale, had a palpable liver and her spleen was 6 cm below the costal margin (see lab results).

Blood pressure 93/55 mmHg
Heart rate 169 /min
Respiratory rate 28 /min
Temperature 37.5° C

Test Result Normal Values
Hb 58 112-165 g/L
Platelet count 98 150-400 x 109/L
Sickle cell screen Positive

Which of the following is the most useful investigation?

A. Bone marrow aspiration

B. Abdominal ultrasound

C. Antinuclear antibody

**D. Reticulocyte count

A 2-day-old baby is brought to the hospital because of reluctance to feed and seizures since last night. On examination, the baby weighed 3 kg, is inactive and has a generalized increased tone. A cerebral spinal fluid sample was obtained (see lab results).

Test Result Normal Values
Gross appearance Clear Clear and colourless
Glucose 3.5 2.8-5 mmol/L
Total protein 0.22 0.22-0.33 g/L
Cells 10 Up to 30/µL

Which of the following is the most likely diagnosis?

A. Neonatal sepsis

B. Neonatal tetanus

C. Pyogenic meningitis

**D. Hypoxic- ischemic encephalopathy

A 10-day-old full term boy presents with abdominal distension for 1 week. It is associated with greenish vomiting and difficulty in passing stool. His stools are loose in constancy. On per-rectal examination, the rectum is empty and he passed large amount of stool and gases after the figure was removed (see image).

Which of the following is most likely diagnosis?

A. Pyloric stenosis

B. Intussusception

C. Incarcerated hernia

**D. Hirschsprung's disease